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ABSTRACT

This publication is particularly concerned with research and writing performed on the outcomes of early childhood education programs during the last five years. The chapters in this research review discuss the following: 1. The Current Scene--Conflicting Philosophy in Early Childhood Education; Difficulties in Analyzing the Research on Values in Early Childhood Education; 2. Intellectual Growth Research--Role of Experience in Determining Intellectual Abilities; Effect of School Experiences in Early Childhood on the I.Q.; Selected Intervention Programs; 3. Later School Achievement Research--Research Findings; Project Follow Through; 4. Other Research Findings--Early Stimulation; Potency of Models; Parent Involvement in Educational Programs; Role of the Teacher; Achievement Motivation; Development of Self-Esteem; Interpersonal Skills; Importance of Learning to Learn; Creativity; Language and Communication Abilities; Pacing; 5. Concluding Statement; 6. Bibliography; and 7. About the Author. (DB)

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CURRENT RESEARCH IN EARLY CHILDHOOD EDUCATION:

A Compilation and Analysis for Program Planners

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A RESEARCH REVIEW
FROM

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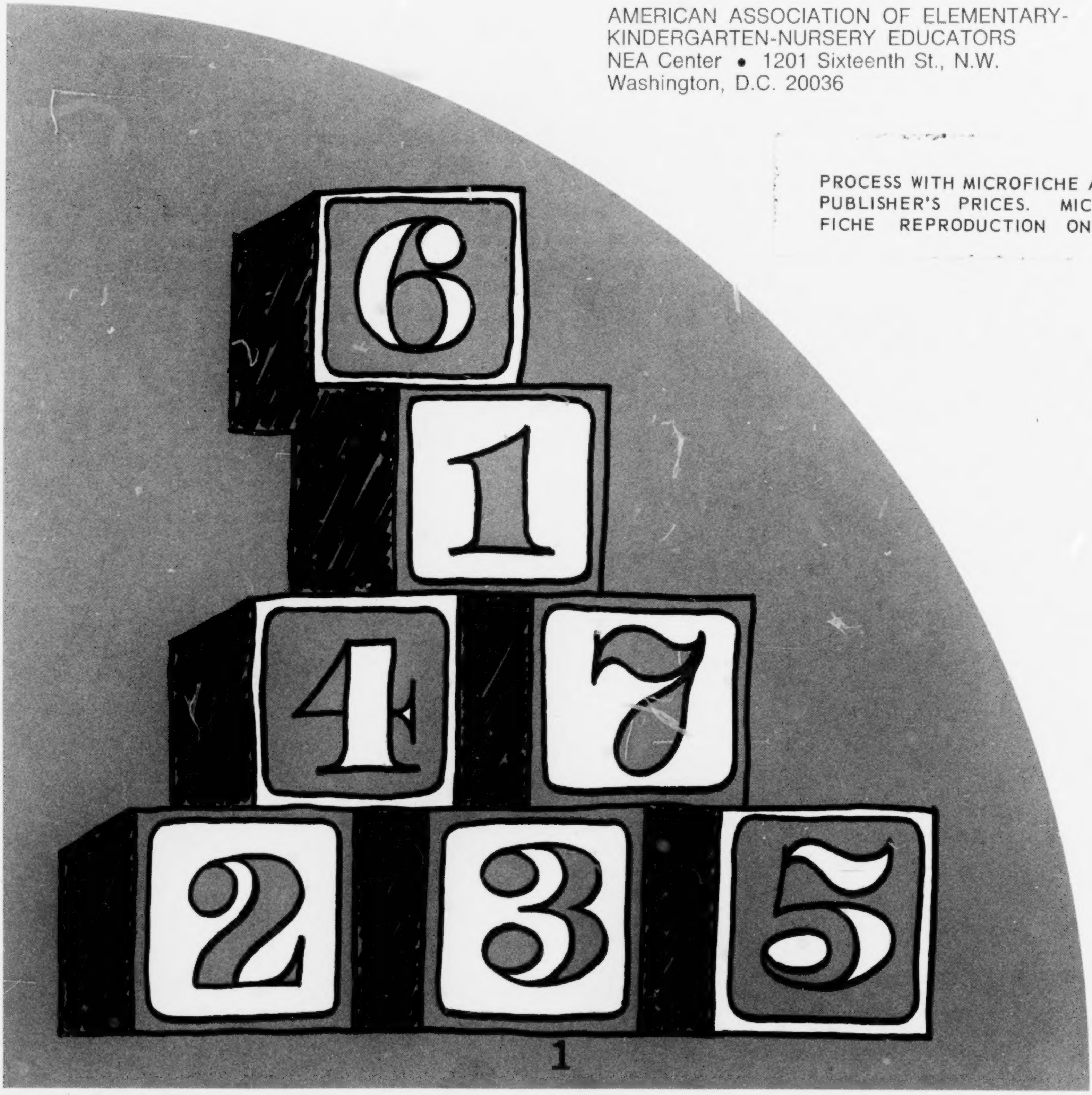

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INTRODUCTION

One of the purposes of our Association that has had continued significance in recent years is that of conducting, reporting, and cooperating in research in areas where knowledge of elementary education is needed. Our best known effort toward achieving this objective has been in the introduction in 1960 of a major compilation and analysis of research in early childhood education that was titled Values in Early Childhood Education.

At the time that the 1960 edition of "Values" was prepared by Elizabeth Mechem Fuller of Ohio University at Athens, interest in early childhood education was growing and questions concerning the values in programs for young children and in the research to support such programs arrived regularly at E/K/N/E national headquarters.

The publication was a popular one and by 1965 a second edition, prepared by Evangeline Burgess of Pacific Oaks College, incorporated new research findings through 1964 with some differences in focus. That publication was released just as plans for Head Start were being made. The 1965 "Values" proved to be one of the Association's most popular publications as the nation entered a new era of activity in early childhood education.

The 70's appear to be a decade of even greater interest in the education of young children and it is appropriate that our Association release in 1970 the most up-to-date compilation and analysis of research in early childhood education available. We have reached a time in our work as educators when the "why" behind what we do is becoming increasingly important. If we are to continue to receive the support that we need from the public to operate the kinds of programs that we know are best for children, we must give answers based upon our best knowledge as professionals. The research that is currently available to us must be studied and used as we plan programs for young children in the 70's. This is our minimum responsibility as professional people.

The Association expresses its appreciation to Annie L. Butler for the difficult task she has performed in such an excellent manner for us. She has done the digging and the analyzing. Now it is up to each of us to make use of her work as we initiate, improve, and expand programs for our nation's young children.

John D. Greene
Chairman, Research Committee and
Immediate Past-President of
the American Association of
Elementary-Kindergarten-Nursery
Educators

President, Association for
Supervision and Curriculum
Development

October 1970

FOREWORD

Each author in the series of research reviews of early childhood education initiated by the Association in 1960 has been given a high degree of freedom in determining the content to be included in each publication. Consequently there have been differences in focus in each one that have reflected the current developments in the field. Other differences in focus have been caused by each author's view of the responsibility and by the availability of other publications dealing with similar content.

Increased interest in early childhood education since the second review was published in 1965 and the development of many experimental and innovative programs have led to the production of a volume of research and literature in early childhood education that again calls for a different kind of publication in this third publication, which has been retitled to more clearly indicate its contents.

Previous editions were largely overviews of research approaches with summaries of the studies made during the five-year period reported with relatively little generalization or interpretation. Summaries and abstracts of studies, as well as the studies themselves, are now much more readily available through the Educational Resources Information Center than they were several years ago. Since many of these research studies have been financed by federal funds, often renewable on a year-by-year basis, progress reports have been prepared, and information is now available much sooner and in preliminary form before the study is actually complete. This is particularly true of longitudinal studies. Thus the literature with which an author is confronted in 1970 varies greatly from that of five years ago.

Several steps were taken in preparation for writing this manuscript. In addition to making the usual searches of the literature, I made visits to the National Laboratory on Early Childhood Education and the ERIC Clearinghouse on Early Childhood Education at the University of Illinois, from which I obtained some material not otherwise available. I also visited ten different experimental or innovative programs located in widely separated areas of the country and representing great divergence in the kind of educational programs provided and conducted interviews with researchers and directors of the programs. These visits enabled me to obtain much unpublished material, which has been used in the preparation of this manuscript when appropriate, and also to observe the programs described in this publication.

Many decisions must be made in writing any book, but some of the decisions seemed particularly crucial in the case of this manuscript because of the large volume of materials, the ever-present limitations of time, and the need to keep the publication as brief and as readable as possible. Decisions have been made that no doubt have had a great influence on the form and content of the publication--what to read and what to skip, what to include in the report and what to leave out, whether to confine the report to research or to include a wider selection of the literature, whether to adhere to the strictly objective or to venture some opinions, and very importantly, how to organize the report.

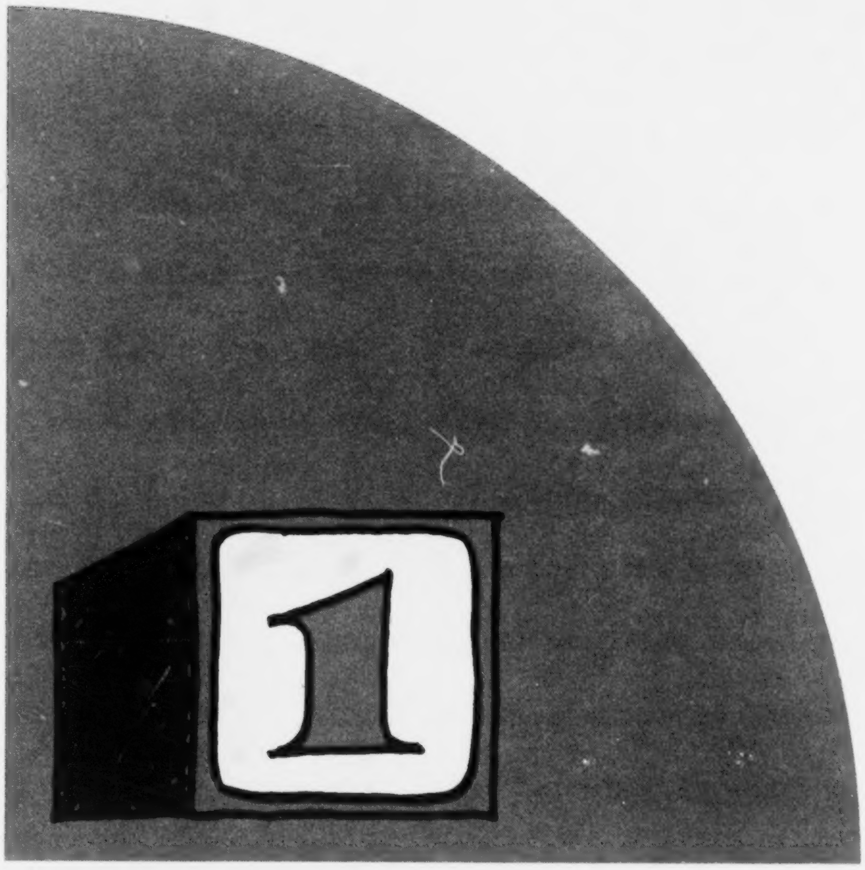
The search of the literature was limited to the publications of the years since 1964 that focus on the outcomes of early childhood education or on analysis of factors composing early childhood education. The major focus in providing resumes of the research has been on the last five years, although resumes of a few significant earlier studies have been taken from the two previous reviews by Fuller and Burgess and references are frequently made to those editions to give continuity. However, because of the understandable lack of generalization by the authors, the material was extremely difficult to use in this way.

In the case of Head Start research, much of which is not generally available, extensive use has been made of the Review of Research 1965 to 1969, prepared by Edith H. Grotberg and published by the Office of Economic Opportunity, June 1969. Other summaries of research have been used when the content seemed appropriate. Some projects have been described for which research results are not yet available. This seems necessary to any comprehensive review of the literature that reflects the current state of the profession.

The problem of organizing the material could be described as attempting to make order out of chaos. No doubt the last five years will some day be referred to as the years of divergence in early childhood education. Philosophies are different, programs are based on different learning theories, and outcomes of research are contradictory. I have tried to show this divergence without leaving the reader with a completely helpless feeling. A research-oriented author would undoubtedly have summarized the studies and let the reader draw his own conclusions. As an early childhood educator with strong interests in teacher education, I was not content to do that. I have tried to present the content of the research without going into any more detail than necessary, but including an extensive bibliography for those who desire to read further. In the current setting of controversy, I have tried to provide as complete an answer as possible to the question: What do we know about the values in early childhood education? I have also tried to go beyond this question to explore what some of the potential values in early childhood education might be.

The organization of the material strongly reflects my own bias, just as much of the material I have read reflects the biases of other authors. It is quite possible that any other author reviewing the same literature would arrive at very different conclusions. It is also possible that a short time from now, with the changes that are occurring, I would arrive at somewhat different conclusions. The reader is not asked to agree with the opinions that are expressed but to accept them for what they are--one person's attempt to give meaning to contradictory research and diverse opinions. My thanks to all who have assisted me in this task.

October, 1970 A. L. B.



THE CURRENT SCENE

The summer of 1965 marked the beginning of a new era for early childhood education. No one would have believed that a program to give half a million disadvantaged preschool children a boost before entering school could be planned and put into operation in three short months, least of all many of the longtime professionals who have fought for public support for early childhood education for the past half century. But it happened! Head Start opened the eyes of the American people as nothing else has to the needs of children in the three to six age group. It brought us face to face with the fact that about one out of five children in the world's richest country suffered from the same tragic neglect that victimized their peers in poor underdeveloped countries. (30) This much-belated awakening was a grand demonstration of what a great nation can do when it becomes interested in mobilizing resources and earnestly attacking a problem.

Head Start has undergone many changes since the summer of 1965, but much of the interest in educational programs for young children remains. Many teachers had the experience of collaborating with pediatricians, dentists, nutritionists, psychologists, social workers, and other specialists. Elementary teachers worked with assistants and aides and came into contact with many community people in a type of relationship not commonly experienced by the public school classroom teacher. Nursery school teachers worked with children whose backgrounds were quite different from the backgrounds of their usual pupils. Needy parents were themselves involved in the classrooms, and their opinions and advice were sought, giving them a new sense of worth. There was hope. (30)

There is still hope! Head Start, which was established under the Economic Opportunity Act of 1964, continues to be the most popular program of the War on Poverty. Head Start is still experimental, and its long-term educational effect on the children enrolled appears to be relatively weak. Nevertheless, it has forced recognition of the fact, known for some time but not widely accepted, that the children of the poor frequently arrive at school age seriously deficient in the ability to profit from formal education. (171) We are increasingly being forced to recognize that, in early childhood, development is a very complex process of which we need much greater understanding.

President Nixon, in announcing the delegation of Project Head Start to the Department of Health, Education, and Welfare in January 1969, indicated that this delegation was an important element in a national commitment to the crucial early years of life. (171) On

April 9, 1969, he announced the creation of a new Office of Child Development in the Department of Health, Education, and Welfare. This new office, which has responsibility for Head Start, day care, and other early childhood programs of the Children's Bureau, went into operation in July 1969.

Since none of the children enrolled in Head Start were eligible for educational programs already provided by the school, another measure of its impact is the degree to which public schools have become involved in programs. According to a 1968 report by the Research Division of the National Education Association, 292,432 children, or 51.1 percent of the total Head Start enrollment in the summer of 1966, were enrolled in Head Start programs operated by public school systems. An estimated 57,000 pupils were enrolled in full-year programs. Most of the children in summer Head Start programs, nearly 80 percent, were over five years of age. The estimated number of classroom teachers in Head Start programs operated by public schools was 18,254 for the school year 1966-67. (167)

As educational possibilities for young children have become more intriguing, the federal investment in early childhood education has grown. In 1968 about 475,000 preschool children were enrolled in educational programs financed under Title I of the Elementary-Secondary Education Act of 1965, which provides financial assistance to local educational agencies for the education of children of low-income families. Title III of this same act has also enabled local school agencies to develop innovative or model programs including preschool programs.

Perhaps the largest impact of the Elementary-Secondary Education Act is yet to be felt, for under Title IV are established the centers comprising the National Laboratory on Early Childhood Education and the Educational Resources Information Center Clearinghouse of Early Childhood Education. The National Laboratory on Early Childhood Education is a coordinated effort in research, dissemination, innovation, and demonstration of carefully evaluated preschool programs developed in the laboratory centers at several universities, including Arizona, Chicago, Cornell, Kansas, Syracuse, and George Peabody College, with the coordinating center at the University of Illinois. Research efforts in these centers focus on many important areas of investigation, including methods of teaching Mexican-American children, special training of mothers in low-income areas, studies of two- and three-year olds, nursery school curriculum, analysis of home environments of preschool children and examination of socialization problems in integrated classrooms of four-year-olds. (30)

The Educational Resources Information Center Clearinghouse on Early Childhood Education, also located at the University of Illinois, regularly reviews, reproduces, abstracts, and indexes documents relevant to the field. It performs information analyses which result in state-of-the- profession publications and publishes a monthly newsletter of interest to researchers, school personnel, and other personnel and practitioners in early childhood education.

Experience of the past years has indicated not only the need for different kinds of educational and care services for children with different needs, but also the need for coordination of services that are provided by a community. For these reasons, the White House requested the establishment of the Federal Panel on Early Childhood Education to develop plans for the most effective use of available operating, research, training, and technical assistance funds to strengthen every program. The panel is also responsible for the coordination of all early childhood programs supported by federal funds. This panel, made up of representatives from the Departments of Agriculture, Defense, Health, Education, and Welfare, Housing and Urban Development, Interior, and Labor; the Office of Economic Opportunity; and the Bureau of the Budget, has issued a statement of *Federal Interagency Day Care Requirements* (80), which day care programs must meet if they receive funds under the Social Security Act, the Economic Opportunity Act, or the Manpower Development and Training Act.

The Federal Panel on Early Childhood Education has also initiated the Community Coordinated Child Care (or 4-C) Program. This program is designed to encourage agencies providing day care and preschool services to work together to stretch their resources, cut out waste and duplication, and improve and expand the quality and scope of their services. The goals are to reach more families, to improve staff competence, and to give parents a more effective voice in policy and program direction. The 4-C Program as it currently exists does not provide the community with any additional sources of operating funds, but recent trends suggest that future legislation in the day care and preschool areas may include preferences for coordinated communities. (221)

Not all of the increased support to early childhood education has come from federal sources. By 1968-69, thirty-three states had passed

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laws that provide state aid for public school kindergartens, an increase of 11 over the number that provided state aid in 1958-59. (9) This does not mean that all schools in these states now have public school kindergartens, but that there is a commitment in that direction.

Other states have committed themselves to the development of prekindergarten programs. In December 1967 the regents of the University of the State of New York issued a position paper proposing that the state adopt a long-range plan leading to the establishment of free public education for all three- and four-year-olds whose parents wish them to attend school. The program begins with a heavy concentration on disadvantaged children and their families. A ten-year schedule is suggested for implementation of the plan. Phase I, for the years 1968-70, involves the gradual expansion and strengthening of existing prekindergarten programs. It includes increasing the state appropriation for experimental preschool programs, encouraging further federal support and coordination of federal with state programs, strengthening advisory and supervisory services to private nursery schools, alerting colleges and universities to the very great need for well qualified personnel, orienting school administrators to the effective follow-up of prekindergarten education, and planning for adequate facilities. (216:8-9)

With the current interest in early childhood education it would be easy to be misled into thinking that the vast majority of three- to five-year-old children are enrolled in school programs. This just is not true. Statistics obtained from the U.S. Office of Education based on 1966-67 enrollment indicate that there were 12.5 million children three to five years of age in the United States. The total enrollment in nursery schools and kindergartens, both public and private, was 3,674,000, or 29.4 percent, exclusive of children enrolled in Head Start. There were only 141 school systems that organized and maintained nursery schools as part of their sequential program of public education. Thus the low percentage of enrollment of three- and four-year-olds, particularly in public school programs, brings the percentage to quite a low figure. (169) Based on 1968-69 enrollment figures, the U.S. Office of Education reports 54.2 percent of the nation's five-year-olds were in public kindergartens. (9)

The number of children enrolled in nursery schools and kindergartens varies greatly within the several regions of the United States as well as among the regions. The Mideast and Far West tend to have the highest percentage enrollment, followed by the Great Lakes. Percentages are low in the Southeast and Southwest but are lowest in the Rocky Mountain region. Many factors cause these variations--scattered populations, state school legislation, state and local control over the ages for which school moneys can be used, state and local regulations regarding age of school entrance, provisions for pupil transportation, school plant facilities, teacher certification, and traditions among the states and localities related to the education of young children. (169)

Since much early childhood education is not publicly financed and available to all on an equal basis, there are many different types of programs. In localities where public school kindergartens exist, children tend to be enrolled in these programs; but where public kindergartens do not exist, five-year-old children tend to be enrolled in the same variety of programs as nursery school children. Some programs are sponsored or administered and financed by colleges and universities; some are cooperative schools organized and incorporated by groups of parents; some are sponsored by church groups; some are federally financed; some are operated by individuals as private enterprises. Still other children are enrolled in day care centers that may or may not have an educational program.

Despite the current heightened interest, early childhood education has been slow in gaining widespread support. Many people are of the opinion that three-and four-year-old children, or even five-year-old children, should be at home with their parents--that providing early childhood training is a parent's privilege and responsibility. Early childhood education is believed by these people to weaken family life. Others who object point to the lack of substantial evidence concerning the value and effectiveness of early childhood education and to the lack of agreement about the age at which children should enter school.

For many years psychologists have pointed out that the first four or five years of a child's life are the period of most rapid growth in physical and mental characteristics and of greatest susceptibility to environmental influences. In 1966 the Educational Policies Commission issued a statement, Universal Opportunity for Early Childhood Education, advocating the availability of educational programs at public expense for all children beginning at the age of four. Such experience is viewed as supplementary to opportunities provided by the home. It is believed to be more needed by children called "disadvantaged," but recognition is given to the fact that early education is advisable for all children, not merely because of the need to offset disadvantages in their background, but also because they are ready by the age of four for a planned program fostering their development and because educators know ways to foster it through school programs. (10:4)

A rapidly increasing number of people are convinced of the values in early childhood education, particularly those who have been intimately related to the education of young children. Quite a volume of research, which has attempted to identify some of the outcomes of early childhood education programs, has accumulated. This publication is particularly concerned with the research and writing on this topic that has occurred during the last five years.

CONFLICTING PHILOSOPHY IN EARLY CHILDHOOD EDUCATION

Perhaps it is to be expected that any field of education that is undergoing rapid growth is also undergoing rapid changes of many other kinds. Historically, early childhood education does not have the years of tradition behind it that education for older children has. Today's American kindergarten is a direct descendant of the German kindergarten of Friedrich Froebel, but in its hundred years of existence many changes have taken place, including influence by Maria Montessori in the early 1900's, and later by Patty Smith Hill, John Dewey, and William Heard Kilpatrick. Nursery schools, coming into existence much later, came under different influences. They were particularly influenced by the research interests of the centers of which many early nursery schools were a part. In the period immediately preceding the current upsurge of interest in early childhood education there was a reasonably high degree of consistency in the theory of early childhood education, but there was never the same degree of similarity in the programs. This may contribute to the degree of philosophical conflict in programs today.

It is impossible to discuss values in early childhood education without also discussing some of the different issues that seem to be a part of the determination of values. Elkind believes that what is shaping up "is a battle between the traditional middle class nursery school teachers who see preschool education as development from within and the new breed of preschool workers who see education as enforcement from without." (73:322) He designates one of these orientations as enrichment and the other as instruction. The conflict, as he describes it, is not between those who advocate enrichment for middle class children and instruction for lower class children; rather, it represents different positions regarding the education of middle class children, derived from quite different value systems. The enrichment position holds that readiness is a phenomenon determined by the child's own rate of development, that academic pressure adds burdensome pressures upon the child, and that one of the prime aims of the nursery school is to foster self-expression and creativity. The instruction position holds that early stimulation results in superior achievement without negative personality or social effects, that we have underestimated the abilities of our children, who can learn faster than we now have them learning, and that children's creative as well as intellectual energies should be channeled more appropriately. Elkind makes no attempt to resolve the conflict but urges that until the evidence is in, those who favor enrichment should keep open minds while those who favor instruction should not let their zeal influence their judgment. (73)

Margolin (152) has pointed out that conflicting ideologies may not be apparent from the point of planning a program to the beginning of its implementation, but that underlying beliefs emerge when educators put the program into action. She identifies five issues that ultimately must be faced if children are to truly benefit from the money, research, and time spent to strengthen early childhood education:

> First, an erroneous impression that a division exist between intellectual (or cognitive) pursuits and exploratory play behavior, that one has 'mind-making' properties and the other does not because the latter is less systematically presented; second, the noticeable neglect of subsidized grants toward the study of esthetic development in young children because it is difficult to measure gains in self-expression; third, a narrow interpretation of what childhood is, as a psycho-social entity; fourth, that the nursery school teacher is not consulted often enough for the insight she can provide in the definition of research problems (the researcher can put her observations into a scientific framework); fifth, that a compendium or set of guidelines is needed urgently as a representative work which synthesizes divergent views of major people in early childhood education. An assessment and statements refuting or justifying certain positions are needed to inform those in and outside the early childhood education field on the nature of its contemporary growth and development. (152:504)

These issues have not yet been resolved, and one can only assume that conflicting purposes and goals will lead to different outcomes. As one reads the literature and visits the programs, it is apparent that wide differences do exist. To look at some of the differences along a continuum may help in the interpretation of the research results. Differences exist in at least three distinct areas--methods used, scope of the program, and orientation of the program. The methods of instruction vary from almost total direct instruction to a strong reliance on incidental learning including a strong emphasis on the role of play in learning. The emphasis of some programs is almost entirely on cognitive learning while others are based on broader goals including all areas of child development. In terms of orientation, some programs give great significance to preparation for the future while others are more oriented toward present needs.

Direct Instruction or Incidental Learning

The two extremes in this categorization are represented on the one side by those who feel that the best approach to teaching young children is to identify specifically those learnings that are needed by children and to teach those skills directly. The curriculum is relatively fixed, although it may vary considerably from one program to another and provision may be made to provide for variation from one small group of children to another. The program is structured to permit specific instruction to take place with the expectation that children will conform. The usual result is that children can be seen interacting with a teacher either in a small group or as a total class. The teacher-directed activity may involve manipulative, verbal, physical, or passive responses from the child. The assumption is that if the child is put through his paces the desired learning will result. The structure is obvious. Children usually move and act as a group, perhaps a group of five or six children, with action directly controlled by the teacher.

Almost without exception programs in early childhood education include an element of play, but there are vast differences in what is meant by play and what is believed to be its relative value. Play in the direct-instruction type of program is usually adult-prescribed activity, adult initiated, and directed by the nature of the equipment. It includes equipment designed to teach specific concepts, teacher-directed games to stimulate language and thought, and very little spontaneously initiated activity. (6) In such programs spontaneous play is limited to a short period of outdoor activity, which, like the old-fashioned recess, is a chance for children to use up excess energy but is not viewed as making any significant contribution to learning.

At the opposite extreme from direct instruction is what is usually termed an open plan of operation. The belief is that children should enjoy a high degree of choice in the educational activities in which they engage and that they should have freedom to move to a more interesting activity when tired of or finished with a previous choice. Many activities are usually provided, and most of these activities offer the possibility of multiple learning. The purpose for which the material is provided, therefore, may not be easy to identify unless one has some firsthand knowledge of the children in the class. Since the teacher functions in a guiding rather than a directing role, the specific teaching goals are not as clearly observable. The effective teacher in this type of program is expected to have clearly defined goals that relate to individual children and to be able to "set the stage" for the kind of learning that is expected to take place. There is a routine of which the children are aware but which results in a high degree of flexibility. Limits are clear to the children but the expectation for different children is deliberately different.

Self-initiated play is the major vehicle for learning. One finds all kinds of materials that can be used for self-expression and creativity. Through dramatic play the child can work out emotional problems and prepare himself for adult roles. He can express the feelings and energies inherent in being a young child. New interest centers are continually provided by the teacher to stimulate the curiosity of the child and stimulate his learning. Although children are usually expected to participate in some group activities--discussions, listening to stories or music--that are determined by the teacher, most of the small group activities are made up of children who have chosen to do the same thing together; therefore these groups have social significance.

In actual practice, few programs represent either extreme. Programs that emphasize direct instruction usually give the children some time to play, which is not regarded as a very significant part of the program. Programs that are highly individualized usually have some planned small group and class activities that are closely related to the interests of the children and are kept short and well paced. The difference is usually in the degree to which these activities are thought to be essential to the program. The direct-instruction program deliberately builds cognitive learning on playlike activities but generally does not call it play, while a program that relies on incidental learning reflects a strong belief in the value of the child's self-initiated play and builds a major portion of the program around it.

Much difference arises in the degree to which teachers are able to implement these programs effectively. In well-conducted structured programs children are orderly and participate quite freely, taking their cues from the teacher, but if the activities are not well suited to the children or if the teacher lacks the skill to implement the program, there can be disruption, disinterest, and lack of enthusiasm on the part of the children. On the other hand, in programs that emphasize incidental learning, if the teacher is truly skilled in his ability to support and extend children's learning, the children can be highly creative and spontaneous and their store of information and their cognitive abilities can be greatly enhanced. With an unskilled teacher who does not understand how children can be given freedom and guidance at the same time, children may become disorganized, misuse equipment, and be hard to control. When either program is poorly implemented, the desired learning does not take place.

These kinds of contrasting programs have been in existence for a long time and are only emphasized by some of the experimental designs for programs for disadvantaged children. Philosophically they are based on quite different beliefs about how learning occurs and what the ultimate goals of education are.

Cognitive Learning or Broad Goals

Cognitive development in the child may be viewed two ways: first in terms of content or precise knowledge a child possesses, and second in terms of the processes involved in development or the techniques which the child has at his disposal. (201) Programs specifically oriented toward cognitive development emphasize the teaching of specific cognitive learnings such as recognition of letters, words, numbers, and shapes, and the development of specific concepts such as big, bigger, biggest or over, under, on. Much emphasis is placed on classification based on different attributes of a wide variety of objects. Some programs do not state any goals outside the cognitive areas, assuming that success in the cognitive domain is the prime prerequisite to development in all areas. Other programs may include broader goals but only infrequently spell out means of attainment. The general assumption seems to be that other areas are enhanced, or at least not harmed, if the child is successful in cognitive activities.

At the opposite end of the scale are programs which emphasize the development of skills in every aspect of the child's growth. Goals that relate to the aspects of the child's social, emotional, physical, and intellectual development are specifically stated. Experiences provided are generally expected to contribute to growth in several areas. Affective learnings are regarded with as much significance as cognitive learnings, and the two are closely interwoven in curriculum planning. Cognitive learnings are less clearly or less narrowly defined. Children are expected to learn from their interaction with each other and from their experimentation with a wide variety of materials that also introduce possibilities not purely in the cognitive domain.

In general both points of view are grossly misinterpreted by those holding the opposite opinion because both groups have strong feelings about what should be taught. Essentially, part of the controversy revolves around the role that feelings play in education, for in essence one point of view says that feelings will take care of themselves, while the other says that feelings are a real part of the learning situation and that the child should be helped to deal with them constructively.

Again, one must ask how well the teacher does what he professes to do, for the teacher who is confused regarding his goals may vacillate in a way that is confusing to all concerned.

Preparation for the Future or Planning for Present Needs

One outgrowth of the emphasis on disadvantaged children has been the push toward giving greater importance to "getting children ready for school." This point of view attaches great significance to early school achievement. It calls for an analysis of the skills and abilities a child needs to be successful in first grade and for a plan to teach the child these skills before he goes to school. This point of view accepts the ladder approach to education--the premise that children should reach a certain degree of accomplishment before moving to the next step. The curriculum is relatively fixed, and it is the child who must adjust. In such a program a child who does not do well on the reading readiness test may be retained in kindergarten. This point of view can accommodate only a limited range of individual difference.

Acceptance of children as they are forms the basis of the opposite point of view. It is believed that there are learnings that all children can acquire that are worthwhile. The teacher needs to be very much aware of the sequence of individual growth and to provide the experience which enables the child to progress as rapidly as he can, but he must not put ceilings on a child's growth or establish a minimum standard of accomplishment for acceptance. The teacher must be aware of the wide range of learning opportunities which he can plan for the child and must not wait until the child has exhausted all other learning possibilities before providing something new. The skilled teacher uses the child's enthusiasm and feeling of accomplishment largely as a motivating factor to future achievement. It is assumed that if the present is handled well, the future can be met with the greatest possibility of success.

All teachers want children to do well in school, but it is possible for them to be caught in a situation in which the views described here are in great conflict, either between the kindergarten and the first grade or between the teacher and the school administration.

DIFFICULTIES IN ANALYZING THE RESEARCH ON VALUES IN EARLY CHILDHOOD EDUCATION

Difficulties in analyzing the research on values in early childhood education should now be apparent, but, because these difficulties are important to any interpretation of the data, a few of the particularly difficult problems will be pointed out.

When programs are being evaluated, there is often little or no description of the goals of the program or of the curriculum. With the exception of intervention programs, there may be little description beyond "Montessori School," "middle class nursery school," "traditional nursery school," or "Head Start."

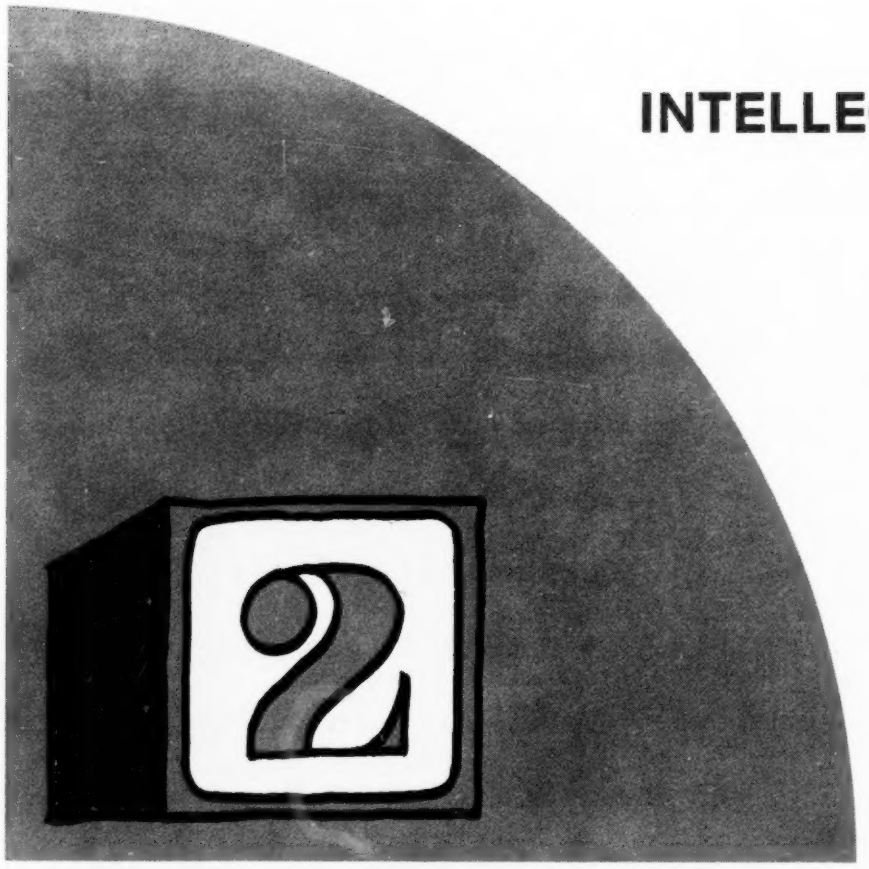
Instrumentation is a particular problem. What kind of instrumentation is valid if one wishes to compare the outcomes of a cognitive, direct-instruction program with a much more broadly based informally organized program? What can changes in I.Q. indicate about the outcomes of these programs when other aspects are not measured?

Anyone reading the current research cannot help but be impressed by the fact that the preponderance of research since 1965 has involved disadvantaged children; prior to that date few disadvantaged children were enrolled in the schools which were used for research centers. The question of differences between an educational program for disadvantaged children and one for middle class children is as yet unresolved. Generalization from data collected in the varied programs now in existence is highly questionable.

Little or no attention is given to teacher variables in any of the studies reviewed, yet it has been found that method or approach may not be useful as studies of teacher style. (137) Such aspects of teacher behavior as tempo, vitality, sociability, and the degree to which the teacher is able to implement the described method may be of great importance in determining research outcomes.

Although there are obvious examples of carefully planned and controlled research designs, there are also examples of research designs that lack either of these attributes. No attempt has been made to select "good" or "bad" designs. Reports have been included if they pertain to any group of children, the majority of which is under six years of age, brought together for educational purposes. Studies of older children have been included only if they were made on children who were formerly enrolled in preschool programs and/or represent experimental or control groups for studying long-range effects of early education. Many studies are reported in the literature more than once. When this is the case the reference included depends on which one was first discovered and read by the writer.

Because the volume of research is too large to include, or even read, abstracts of research, particularly Head Start research, have been used extensively so that some of the true objectivity of a strict review of research may have been lost. There are also distinct procedural problems in reporting the research: (a) overlap in attempting to classify the studies, (b) variation in age groupings and age spans, and (c) ambiguous or actually conflicting terminology used in the separate studies.



INTELLECTUAL GROWTH RESEARCH

For many years researchers have been concerned about the relationship between attendance in early childhood programs and changes in the child's level of intellectual ability. The extent to which this has influenced the literature has depended somewhat on the prevailing philosophy regarding the potential effect of the environment on the development of cognitive abilities. The last five years have been marked by a great upsurge in interest in the effect of educational programs on the child's cognitive abilities. Most of the research planned specifically as intervention studies in the education of disadvantaged children has placed a high priority on cognitive development and has, therefore, relied heavily on the results of I.Q. tests in evaluating the programs. Because of this intense interest, an entire chapter of this research review is devoted to the topic of intellectual abilities.

ROLE OF EXPERIENCE
IN DETERMINING INTELLECTUAL ABILITIES

Understanding the Nature of Intelligence

One of the major controversies in psychology and child development has been concerned with determining the relative contributions of heredity and environment to intelligence. Fluctuation of opinion in one direction or the other has been a major determinant in regard to the significance of the contribution that might be made by early childhood education. Unfortunately, we are still far from understanding the exact nature of intelligence, and there is not yet any complete resolution of the controversy. We recognize that there are genetic factors that are fixed at the moment of conception, but understanding of intelligence is complicated by the fact that hereditary and environmental aspects vary together, not independently. (87) Whatever we observe and measure of the organism is a result of the interaction of genotypic characters and environment and is classified as a phenotype, according to Jensen (130), which, by definition, is not "fixed." Jensen says that intelligence is also a phenotype, not a genotype, so there is not a legitimate argument about whether or not intelligence is fixed. But because of the varying opinions as to the relative contribution of genetic factors and of the physical and social factors that impinge on the individual, it is obvious that understanding of the exact nature of intelligence is far from complete.

Jensen feels, however, that the slighting of genetic factors in the study of intelligence can only hinder the investigation and understanding of the conditions, processes, and limits through which the social environment influences human behavior. He presents a formula by which he estimates that 81 percent represents probably the best estimate of the heritability of measured intelligence that we can make. (130)

Zigler, as quoted by Jensen (130), has also cautioned against "unbridled environmentalists." He feels that our nation has more to fear from them than from those who take the biological integrity of the organism seriously. He points out that environmentalists have written report after report in which genetics is ignored and the concept of capacity is treated as a dirty word. In the educational realm, he states that environmentalists have suggested to parents how easy it is to raise the child's I.Q. and have prematurely led many to believe that the retarded could be made normal and the normal be made geniuses.

Zigler, in a paper presented at the conference of the American Educational Research Association in 1969 (254), helped to clarify the range of answers we offer to the role of environment. At one extreme we have the neo-Gesellians whose views represent what is the strongest nativistic, anti-environmentalist position existing in the country today. Simply stated, their view is that if you can guarantee the child a normal environment, defined in relatively broad limits, the child will naturally develop. At the other extreme is the naive environmental mystique in which all differences in cognitive development are viewed as the function of differences in experience. Zigler goes on to state his opinion quite clearly:

> I do not believe that the formal intellect of the child is as plastic as the supporters of the environmental mystique would have us believe. We are not going to repeal the law of human variability. The very nature of the gene pool of our population will always guarantee variability in cognitive development. The notion that we will produce a homogeneous race of geniuses through the programming is a daydream, a daydream I find to be contrary to a very basic biological law, namely, the law of human variability. (254:10)

The Role of Experience

Two of the most widely quoted references in relation to the role of experience in intellectual development, Joseph McVicker Hunt's Intelligence and Experience and Benjamin S. Bloom's Stability and Change in Human Characteristics, have been widely used to support the planning of encounters which the child has with his environment. Hunt, after examining the literature, concludes that old evidence once conceived to support the assumptions of fixed intelligence and predetermined development can readily be reinterpreted to be consistent with the newer conception. (126) He uses Dennis' finding that in orphanage environments, where the variety of stimulation is minimal and only 42 percent of the children sit alone at two years of age and only 15 percent walk alone at four years of age, to support his belief that the rate of development is not controlled by the genes.

Hunt feels that Jensen tends to minimize the studies of extreme deprivation and is among those who are inclined to believe that mankind has not yet developed and deployed a form of early childhood education that permits an individual to achieve his full genotypic potential. It still remains for us to determine how great and how permanent such effects can be, but the fact that change in the intellectual structures is most rapid during early months and years suggests that the child could come nearer to achieving his full potential for intellectual development if we knew how to improve the match between circumstances and level of behavioral development.

In Hunt's view compensatory education has not failed, and he believes a statement such as Jensen's to the effect that it has been tried and apparently failed can do irreparable harm. As he reads the evidence:

> The odds are strong that we can boost both I.Q. and scholastic achievement substantially, but we cannot know how much for at least two decades. Moreover, we shall never find out if we destroy support for investigation of how to foster early psychological development of educational technology and for the deployment of that technology. (125:297)

Importance of the Early Environment

One of the most widely quoted statements in favor of the development of early childhood education comes from Benjamin Bloom's summary of 1,000 research studies in which he concludes:

> Put in terms of intelligence measured at age 17, from conception to age 4, the individual develops 50% of his mature intelligence, from ages 4 to 8 he develops another 30%, and from ages 8-17 the remaining 20%. (36:88)

Bloom has pointed out three reasons why the early environment is of crucial importance: (1) The rapid growth of selected characteristics makes the variations in the early environment so important because they shape these characteristics in their most rapid periods of formation. (2) Development in the early years provides the base upon which later development depends. (3) It is much easier to learn something new than it is to stamp out one set of learned behaviors and replace them by a new set. (36:215)

In the context of statements above, Bloom has often been quoted in justification of educational programs which are academically oriented; however, Bloom is quite specific in his statement that attempts by some parents and some preschool programs to teach children to read, to write, and to do simple arithmetic are misdirected education. His view of preschool education is that it is a very complex process of "learning to learn" which requires a very well prepared teacher rather than a poorly prepared amateur or temporary volunteer. Early childhood education programs are believed by Bloom to have their greatest "pay off" when specifically designed to meet the educational needs of socially disadvantaged children. (35:14)

Early Intervention Program

The most familiar study among those that form the basis for intervention studies in early childhood is Harold Skeels', which represents a twenty-one-year follow-up of the early studies by Skeels and Dye and by Skodak in 1939. Skeels' (211) original experimental group consisted of 13 children in an orphanage, all under three years of age with a mean I.Q. of 64. These children were all so delayed in their development that no adoptive placement had been made for them. The treatment consisted of placing the children in an institution for mentally retarded under the care of some of the older female inmates. The children, who had been in an overcrowded orphanage with limited resources and staff, became the pride of the patients who took over as mother-surrogates. Each mother-surrogate spent large amounts of time talking to, playing with, and training a child. The children had an outdoor playground with appropriate materials, attended nursery school and kindergarten, and were exposed to other kinds of enrichment experiences.

Skeels' contrast group was composed of 12 youngsters who were considered normal in mental development and placeable but who were still in the orphanage at four years of age. The mean I.Q. when tested prior to two years of age was 86.7.

As soon as each child in the experimental group showed normal intelligence, as measured by intelligence tests and substantiated by qualitative observations, the experimental period was considered complete. Every child showed a gain of from 7 to 58 I.Q. points. The mental growth pattern for the children in the contrast group was quite the reverse. Losses were between 9 and 45 I.Q. points. In the first follow-up study, 11 of the 13 experimental children were placed in adoptive homes. They then had a mean I.Q. of 95.9. The mean I.Q. of the contrast group was 66.1, a mean gain of 5.6 points over the last test of the experimental period.

Adult follow-up 20 years after the post-experimental follow-up provided striking contrasts. Skeels found that the mean grade completed by the experimental group was 12.8 while only one subject in the contrast group had an education beyond 8th grade. Eleven of the 13 experimental subjects had married and had a total of 28 children who had a mean I.Q. of 103.9. None of the children showed any abnormality. In the contrast group only two men and none of the girls had married. All members of the experimental group were self-supporting with incomes within the average range. The incomes of the contrast group were markedly lower. The gains made in the experimental group were maintained, but the contrast group also continued to show the adverse effects of their early environment.

Susan Gray (96:3) in analyzing this study pointed out that the placement of the children in the institution for the mentally retarded appeared to have two desirable aspects of early intervention programs--a high adult-to-child ratio in a presumably consistent environment and a high stimulus potential as compared to their earlier situation. Beyond that there was continuous intervention over a long period of time.

EFFECT OF SCHOOL EXPERIENCE IN EARLY CHILDHOOD ON THE I.Q.

Emphasis on Raising Intelligence

One of the concerns in early childhood education, beginning in the 1920's, has been with finding ways to help the individual attain an intellectual level higher than that which he could have attained without those particular experiences. When Elizabeth Mechem Fuller (87) reviewed the research in this area in 1960, she pointed out that the burden of proof still rested with those who claim that significant changes in I.Q. can be produced by a prescribed educational program. To a certain extent this is still true today. For some reason the evidence of improved intellectual functioning which teachers and parents think they have observed in children has never been indisputably proved. Whether the schooling merely facilitates response and increases the child's self-confidence and willingness to attempt problem solving, or whether real differences in intellectual aspects are produced is an unresolved issue. Yet this is a very significant issue that seems to lie at the core of whether early childhood education will be accepted by the public and by many public school authorities.

Early Nursery School Studies

Historically, the studies of Wellman (246) at the Iowa Child Welfare Research Station at the University of Iowa and Goodenough (91) at the University of Minnesota illustrate the many aspects of the problem and the high degree of complexity investigators have found in it. Studies were made by Wellman on 652 children for whom there were complete records, taken from 1,285 children enrolled in the nursery school at the Iowa Child Welfare Research Station between September 1921 and June 1938. The Stanford-Binet test was given to the children in the fall of each year of nursery school attendance and again in the spring. The average I.Q. in the fall was 116.9. The average gain on the spring test was 6.6 points. Although there was a tendency for younger children to gain more, gains were distributed through all ages, two to six inclusive. Greatest gains were made by the children in the lower I.Q. levels and least gains by those in the higher levels as determined by the fall test during the first year of school. Wellman noted that without exception the changes from fall to spring were positive and the changes from spring to fall were negative, although negligible in the amount. She also found that the gains became less with successive years in nursery school. The gain over two years of attendance was as great as that over three years; the third year merely served to maintain the previous gains. (87)

Wellman (246) summarized these studies in the Thirty-Ninth Yearbook of the Society for the Study of Education in 1940:

> These studies show that children made cumulative gains in I.Q. during the first two years of preschool attendance with no gain among nonpreschool children. Correlations between the change in I.Q. and the number of days' attendance during one preschool year approached zero. Changes in I.Q. could not be accounted for by the cultural status of the parents. The I.Q. change of very superior children seemed to be affected by an appropriate educational program. The gains in I.Q. which are attributed to preschool attendance appeared to be reflected in school achievement. Preschool children made higher scores on the high school test than did nonpreschool children. Preschool children also made higher scores on college entrance examinations than did those who did not attend preschool. (87:48)

Conflicting Results

These findings were not duplicated by the majority of investigators at other institutions during the same period of time. (19), (41), (91), (133), (176) Goodenough and Maurer, in particular, were very critical. They compared the test records of 147 children who attended the nursery school at the Institute of Child Welfare at the University of Minnesota with those of a control group of 260 children who had no nursery school training. None of the comparisons made between the two groups indicated an accelerated effect upon the intelligence of the children who attended nursery school, as judged by the Minnesota Preschool Scale. Those with nursery school training were not more advanced in school than those who did not attend nursery school. Neither did those who attended nursery school the longest and most regularly surpass those whose enrollment was short and broken by frequent absences. Goodenough and Maurer criticized the Iowa studies on the basis of two hypotheses that they believed false: that intelligence tests given to children of two to three years of age have essentially the same predictive value for later mental development as those given after school age, and that the reliability of such tests is so nearly perfect that the effect of statistical regression due to errors of measurement may be safely ignored.

At the time that this controversy was raging the dominant belief was in fixed intelligence and predetermined development. The influence of mental health was strong. The pendulum of opinion had swung hard toward the side of not pushing children in their intellectual development, of allowing their basic natures to unfold, of letting them be themselves, and of helping them toward life adjustment. (126:5)

Discovery of Piaget

For many years, almost unknown to American psychologists because of the lack of translations, Piaget had continued the study of the process of developing intelligence. As translations were made in the early 1960's, Piagetian concepts found their way into the writings of Ausubel, Bruner, and Hunt, and we were soon thrown into a new focus on cognitive development. Burgess identified implications for early childhood education that she felt were clear in the theory of Piaget and of American investigators who were strongly influenced by Piaget:

> 1. The importance of sensorimotor experience is underlined.

2. Language, especially that which relates to labeling, categorizing, and expressing, is intimately tied to developing greater facility in thinking.

3. New experiences are more readily assimilated when built on the familiar.

4. Repeated exposure to a thing or an idea in different contexts contributes to the clarity and flexibility of a growing concept of the thing or idea.

5. Accelerated learning of abstract concepts without sufficient related direct experience may result in symbols without meaning. (44:35)

Continued Emphasis on Intellectual Development

Again in the mid-1960's researchers began to be concerned with the effect of nursery school and kindergarten on intellectual development. However, in some respects, the reasons for the focus were quite different. Programs were being planned to develop specific cognitive abilities, and research was conducted to see if such abilities were indeed being developed. Nationwide concern with the problems of disadvantaged children had led to the establishment of educational programs for children of low socioeconomic status where few had existed before.

For years we have known about the gap between the performance of disadvantaged and middle class children on intelligence and achievement tests. We have also known that as the child gets older, this gap increases. One of the goals of Head Start and other intervention programs is to prevent this gap from forming and from growing progressively larger. There is some evidence to show that if intellective training is begun soon enough, before age three, social class does not influence the child's performance. (180) However, most studies have confirmed the difference in the initial test scores of middle class and disadvantaged children. (120), (113) Participation in Head Start has been found in some studies to improve conceptual maturity and stop the progressive retardation but not to close the gap between the middle class and disadvantaged children. (113), (71)

Impact of Head Start

Studies of children enrolled in Head Start have been conducted by a variety of investigators, from widely different parts of the country, dealing with children of different backgrounds participating in programs that differ widely in form and content. Tests most frequently used were the Stanford-Binet, the Peabody Picture Vocabulary Test, and the Goodenough-Harris Draw-A-Man Test. A minimum intellectual gain of from five to ten I.Q. points was reported in the early findings. Several investigators reported that the findings were remarkably consistent, with about two-thirds of the studies on file in the Office of Economic Opportunity reporting either a significant increase in I.Q. or a superiority for children with Head Start experience over children with similar social and economic backgrounds but with no Head Start experience. (39:346), (63:2), (179:11)

Early childhood educators have often expressed preferences for particular approaches to teaching young children, but little research has made a comparison of the differences in the growth of intellectual abilities of the children in the different programs. Results of some studies of this kind are now available. Seifert (206) reports a study in which a moderately structured curriculum (cognitive) devised by

Weikart and a highly structured curriculum (language) devised by Bereiter and Englemann were compared. The results showed that the two preschool programs differed little in one kind of process, namely verbal interaction. On Stanford-Binet scores, gains made by children in the two programs did not show a significant difference. However, children in both programs gained about 30 I.Q. points more than did the control group of nonpreschool children.

Comparing Different Approaches

Karnes (135) compared five different kinds of programs, traditional nursery school, Karnes program, Bereiter-Englemann, Montessori, and a community-integrated program. The Stanford-Binet means for all groups were comparable in the beginning, and all groups made I.Q. gains. The traditional class, the Montessori class, and the community-integrated programs were not significantly different from each other on the second test administered at the end of the year. Means for the Bereiter-Englemann and the Karnes programs were superior to the others. Karnes concluded that the two structured programs, although quite different in their approach, enhanced the intellectual functioning of the children significantly more than did the others. In terms of the age at which intervention is most effective, she concluded that the results lend support to classroom intervention at age three rather than age four and that the gains made during a year of nursery school experience are not maintained without further special intervention.

In a second comparative study, Karnes made a comparison of three different kinds of compensatory programs for four-year-olds. The three kinds of programs included a "direct-verbal program" that was actually the Bereiter-Englemann program, an "ameliorative preschool emphasizing language development" that was the structured program of Karnes, and the Karnes version of a traditional preschool. The Bereiter-Englemann program lasted for two years. The Karnes program lasted for one year with children under this program attending public kindergarten in the morning and a special one-hour program in the afternoon. The latter was divided into two periods, one concerned with language development and reading readiness and the other with arithmetic concepts and skills. During the second year the children who had been enrolled in the traditional preschool were entirely under the supervision of the public school. Children were tested with the Stanford-Binet test before they entered preschool, at the end of the kindergarten year or in the case of the Bereiter-Englemann program at the end of the second year of their program, and at the end of first grade. During the first year children in the Bereiter-Englemann and Karnes programs gained approximately 14 points, and children in the traditional program gained about 8 points. During the second year substantial differences appeared. Children in the Bereiter-Englemann program gained an additional 10 points, while children in the Karnes program drifted slightly downward despite the hour of supplementary teaching. The mean I.Q. of children in the traditional nursery class also drifted slightly downward. At the end of the second year the mean I.Q. of the Bereiter-Englemann children was definitely superior to that of the other two. However, during the third year the Bereiter-Englemann class showed a loss of 11 points, the Karnes class a loss of

4 points, and the traditional class held steady. At the end of first grade, the variation of the mean I.Q.'s for the three groups was no longer significant. (123)

Another unpublished study by Weikart has compared gains obtained through a year of preschool by groups of disadvantaged three- and four-year-olds in three kinds of programs: (1) the Bereiter-Englemann program, (2) the Weikart program which is based on the teaching of Piaget-like structures with verbalization, and (3) a play-based approach devised by P. Sears which utilizes conceptual, linguistic, and arithmetic games not unlike those of the traditional nursery school. As of February, gains made in I.Q. since September were substantially largest for children under the Bereiter-Englemann program; gains under the Weikart program were next; and those of the children under the more traditional program were least. By June, the mean gains for various programs had virtually evened. "The average for the Bereiter-Englemann program was 30.4 points. That for the Weikart program was 28 points and that for the 'more traditional' program was 27.5 points." (123:176)

For each of four years, three- to five-year-old children, mostly Spanish-speaking Mexican-Americans, participated in a program in Fresno, California, aimed at language development. The Peabody Picture Vocabulary Test was used as a pretest and a posttest. The first year during a pilot project nearly every child raised his I.Q. by 10 to 20 points. For the second year, there were negligible gains. The third year's test results were divided into three ethnic groups (Caucasian, Negro, and Mexican-American). The groups differed significantly on the pretest but not on the posttest. All groups gained significantly. The same procedure was followed the fourth year with all gaining significantly. The authors concluded that the program provided had been successful in increasing the intelligence of preschool children but did not give any longitudinal results of the program. (14)

A two-year project carried out by Kittrell (141) at Howard University was planned to serve two purposes: (1) to help children explore a wider environment, pursue their special interests, develop their potential abilities, and create attitudes toward themselves and others essential to the development of self-respect and the achievement of a responsible role in society, and (2) to help the children's parents participate in and contribute to their children's enlarged experience, widen their own interests and knowledge, and become more active community participants. All children in the experimental and control groups were tested before entering school, at the end of the first year, and at the end of the second year on the Stanford-Binet and Peabody Picture Vocabulary Test. I.Q.'s for the experimental group were slightly lower at the beginning than for the comparison group. The mean I.Q. score for the experimental group increased by 10 points the first year and 4.6 points the second year for an overall gain of 14.6 points. The children in the comparison group made an average gain of 4 I.Q. points in the same two years. Findings corroborated the impression of teachers and research staff that the children still had a long way to go to catch up with middle class children of their age in ability to express themselves through language. For a further analysis of the data, children were grouped into three socioeconomic status levels all within the low socioeconomic status stratum. I.Q.'s of children in the high group jumped 17 points the first year--over twice the gain by children in other groups. The children in the high group made approximately the same gain in one year that the other children made in two. Fuschillo concluded that children from the most deprived homes may need at least a two-year nursery school experience to get the full benefit of a preschool program, while those from less economically depressed and better organized families may need less. (88)

In a study by Cawley (48) of the population of three Head Start centers in a full-year program the group was divided into three samples on the basis of scores on the Stanford-Binet Test--a high group with a mean I.Q. of 103.24, a middle group with a mean I.Q. of 88.76, and a low group with a mean I.Q. of 73.42. All posttest means were significantly greater than the corresponding pretest means. The trend in gains suggested that although the mentally retarded derived significant benefits from the program, they did not show the same gains as the nonretarded.

Alpern (8) evaluated an enrichment program for socially disadvantaged children sponsored by a community house which, for many years, has operated nursery school programs. Two groups with 22 children in each were matched for intelligence, sex, and readiness as measured by the Metropolitan Readiness Test. The goals of the school were to (a) develop positive attitudes toward the concepts of school learning and teacher, (b) increase the children's communication skills, and (c) increase knowledge of middle class experiences and values. The experimental group of children attended nursery school three times a week. The control group did not attend nursery school. The results at the end of the first year were: (a) Both groups made significant gains in all readiness measures between the first and second testing. (b) There were no significant differences between the groups on any of the readiness measures. (c) There were no significant differences in intelligence between the groups at the time of the first or second testing. Alpern concluded that this type of preschool experience did not lead to gains on the dimensions representing the goals of the program.

All of these studies tend to be difficult to interpret because of the number of different variables and the number of measures which are made on the children. One interesting study by Henderson (107) found significantly greater gains in children in a bicultural preschool program. There are beginning to be a few findings on Montessori programs. Starkweather (215) found that children in a preschool operated by the Oklahoma City Public Schools and children in a Montessori preschool both made significant gains in intelligence. However, when Taminen (223) added Montessori toys to a Head Start program, gains were less than in the regular Head Start Program. Katz (137), after studying a traditional program and a Social Learning Theory program, concluded that "method" approach may not be as useful in the study of preschool problems as the study of teacher style. The problem she observed was that the teachers in her study did not follow through on the specified teacher behavior. They attended to the structuring and directing part of their role but neglected the praise and supportive aspects, with the effect that child behaviors that interfered with the learning of the children and threatened their later school adjustment were increased.

Most of the studies reviewed in this section do show I.Q. gains associated with attendance in preschool programs. It appears now that the real trick is to maintain these gains over a period of time so that the usual picture of decline does not emerge. This is the focus of the following intervention programs that have received a great deal of attention in recent years.

SELECTED INTERVENTION PROGRAMS

The Early Training Project

In 1962, Susan Gray (142), (96) began a five-year study with a population of 61 Negro children born in 1958, selected on the basis of poor housing, low educational level of parents, and generally unskilled labor by parents. The children were randomized into three groups. One group entered the intervention program three summers prior to public school entrance into first grade; one group two summers prior to such entrance; the third group had no intervention. A fourth control group was identified in a similar city 60 miles away. The preschool intervention program, lasting 10 weeks in the summer and specifically planned to offset the deficits usually observed in disadvantaged children, was followed by nine months of home visits by a specifically trained worker. These visits had as their primary objective to involve the mother actively in sustaining and increasing the gains the child made during the summer months. All of these children moved into the first grade in 1964, the three local groups into the same school.

On the Stanford-Binet test, the experimental group has remained significantly superior at the .05 level to the control groups. The impact of the program on intelligence tends to favor the group receiving the earliest and maximum exposure to the program. Data suggested that earlier and longer exposure to the training program resulted in the most improvement, which persisted while the children were in the program. In the first grade all groups improved; then, in a parallel fashion, came a slight decline that was interpreted as related to the massive impact of the environment and the school situation. Significant differences on the Peabody Picture Vocabulary Test remained through the second grade. On tests of school achievement, Metropolitan Readiness Test, and Stanford-Binet Test, the experimental group remained consistently superior on almost one half of the subtests during the first two years of schooling. However, by the end of the fourth grade the differences were no longer significant.

Two types of diffusion effects were noted by Gray. (96) In checking out consistent contacts between the experimental and control families over time, it was discovered that there was only one child in the control group who had no contact with families in the experimental group. When a program is highly regarded in the community the ideal setting is provided for spillover effects. Comparison of the local and distant control groups are at least suggestive of some measurable effect of this horizontal diffusion.

Also, the effect from older to younger siblings has been interesting. Younger siblings who were old enough to test in 1964 were also tested in 1966 when a new group was filled up. The children closer in age to the experimental children were significantly superior on both the 1964 and the 1966 testing to the younger siblings from the control groups. Gray concludes that in terms of intervention techniques taught the mother, there is more spread of effect to the children closest in age to those for whom the techniques were designed.

Perry Preschool Project

David Weikart and his associates in the Ypsilanti public schools (243) designed an experiment to assess the longitudinal effects of a two-year preschool program designed to compensate for mental retardation associated with cultural deprivation. The program, described as cognitively oriented, began originally as a program of "verbal bombardment" but moved over the years to a somewhat more Piagetian approach. The school-based program consisted of a 2 1/2-hour morning class for the youngsters, with the addition of a home-based afternoon program. The teachers of the morning program visited in the home of each youngster one afternoon per week. Originally the teacher worked with the child, bringing along equipment from the school and extending the school's activities on a one-to-one basis. At first the mother observed, but later the teacher moved toward more interaction with the mother herself. Weikart groups were three- and four-year old "educable mentally retarded" with an initial mean I.Q. varying from 78-80 for the different groups or "waves." At the time of Weikart's report in 1967 three waves had been through two years each of the intervention program. Each wave showed a dramatic spurt during the first year of preschool attendance. Waves 0, 1, and 2 gained mean I.Q.'s of 12.8 points at age four and 11.5 points at age three during the first year. Waves 0 and 1 lost 2.1 and 1.5 respectively during the second year, which Weikart interpreted as a need to strengthen the curriculum. Waves 0 and 1 did not remain significantly ahead of the control groups through the second year of preschool. With the third wave, however, the superiority was maintained through the second year of the preschool. Susan Gray (96), on the basis of a later report, indicates that, "the first wave group, although not significantly different from the control on the Binet, the PPVT, or the Leiter at the completion of kindergarten, did show themselves superior on all subtests of the Gates Reading Test and the California Achievement Test at the end of first grade."

Institute for Developmental Studies

The Institute for Developmental Studies (12) has been involved in compensatory education longer than the other programs described. Its major effort is directed toward an enrichment program designed to bring to young children a curriculum aimed at preventing and alleviating some of the detrimental effects of living in a disadvantaged environment. This program is worked out in conjunction with the New York City public school system. Children who volunteered for the program entered at prekindergarten level and continued through third grade. Control groups who attended the same schools as the experimentals fell into three categories. Css or self-selected controls met the same criteria as the experimentals but were excluded from the program on a random basis. Ck or control children came from the same background as the other two groups but began their schooling in the regular kindergarten. Cl also came from the same background but did not begin school until first grade in regular non-enriched first grades. (98)

The first group or wave of experimental children entered prekindergarten classes in 1962. Since then six waves of children have been tested, one having begun in the program each year from 1962 through 1967. All experimental groups were given the Stanford-Binet and the Peabody Picture Vocabulary Test on three occasions: prior to entering prekindergarten, following prekindergarten, and following kindergarten. Control groups were similarly tested with slight variations in the time of the first posttest. Analysis shows E and Css to be equivalent on both instruments at pretest. The posttest at the end of prekindergarten and at the end of kindergarten yielded sizeable gains in favor of the experimental groups. At the end of kindergarten the experimental group was also superior to control groups on the Reading Prognosis Test, used to predict end-of-first-grade reading performance. A sample group of first, second, and third graders was given six subtests of the Illinois Test of Psycho-Linguistic Ability. The experimental group was significantly superior to the controls.

Future analysis will involve the full five-year program on a large sample of children. Tentative results suggest that continuous and carefully planned intervention procedures can have a substantially positive influence on the performance of disadvantaged children and can avoid the cumulative failure all too frequently found. (98)

New Nursery School

Glen Nimnicht (170) reported on two years of a demonstration program at the New Nursery School in which three- and four-year-old children with Spanish surnames participated. The objectives of the New Nursery School are (1) to develop a positive self-image, (2) to increase sensory and perceptual acuity, (3) to improve language ability, and (4) to improve problem-solving and concept-formation abilities.

The New Nursery School is organized as an autotelic responsive environment. An autotelic activity is one done for its own sake rather than for obtaining rewards or avoiding punishment that have no connection with the activity itself. A responsive environment satisfies the following conditions: (1) It permits the learner to explore freely. (2) It informs the learner immediately about the consequences of his actions. (3) It is self-pacing, i.e., events happen in the environment at a rate determined by the learner. (4) It permits the learner to make full use of his capacity for discovering relationships of various kinds. (5) Its structure is such that the learner is likely to make a series of interconnected discoveries about the physical, cultural or social world.

The teachers are a part of the responsive environment and therefore respond to the child. The teachers do not "teach"; they facilitate the child's learning. A child is not asked to give up an activity to do something else, nor does he have to be a part of any group activity.

The mean I.Q. for the New Nursery School group when they entered the nursery school was between 83 and 93 (some of the children could not be tested), and when the two groups were tested at the beginning of their year in kindergarten their mean I.Q. score was 94. For the control group it was 84. On the Metropolitan Reading Readiness Test the mean score of 79 for the New Nursery School group placed it at the 70th percentile, while the mean score of 64 for the control group was at the 35th percentile. Based upon the knowledge of the children's background, these findings are significant since the Metropolitan Reading Readiness Test was administered one year after the children had left the New Nursery School.

In the teacher's judgment eight out of twelve of the New Nursery School children would probably do average work, two above average, and two would have difficulty. Since these children were in classrooms where the majority of the children were not from deprived homes, this is considered a plus in evaluating the school. On follow-ups of children, it was found that those who had been in the New Nursery School one year only began to level off in their rate of growth during first grade. It was thought undesirable that the classrooms did not provide experience in which the children's concept-forming and problem-solving abilities could be demonstrated. (98:24-25)

The Bereiter-Englemann Program

This program, sometimes referred to as the academic preschool, is based on the idea that we must have the same set of educational objectives for all children; that we cannot have a large group of children for whom we have different objectives and whom we do not expect to perform as well as middle class children. The long range goal is "teaching skills that potentially lead to maximum upward social mobility." (25:1) The idea is to teach the children the skills that will serve as the foundation for what they will be doing in school for the next ten years and to provide each one with the kind of instruction that allows him to learn at a faster rate than the middle class child is learning, in order to catch up. In this program the children spend about an hour a day working on academic skills. "They spend twenty minutes on reading, twenty minutes on arithmetic, and twenty minutes on language. During these periods, the children work in small groups--one teacher to four to six children. The children move from class to class as they would in a departmentalized high school. The teachers specialize. One teacher teaches language to all the children; another teaches arithmetic to all the children; and another teaches reading to all of the children." (25:2) The children spend the rest of the time in seat work activity, music, art, and less structured activity. In all activities the teachers systematically reinforce those behaviors that are desired with tangible reinforcers or praise.

The experimental group consisted of 15 four-year-old children who attended the academic preschool for two years. Classes were held two hours a day for five days a week. A comparison group of 28 children attended a traditional preschool and kindergarten.

Both the experimental and control groups received the Stanford-Binet three times, once in the fall of 1965, again in the spring of 1966, and finally in the spring of 1967. The Wide Range Achievement Tests in Reading, Arithmetic, and Spelling were also administered to both groups. The experimental group achieved significantly greater Stanford-Binet I.Q. gains than the subjects in the comparison program, at the end of both the first and second years of instruction. The comparison group showed an 8.07 gain after the first year of instruction, but had a loss of 2.96 points after the second year. The experimental group showed a 17-point gain after the first year and an 8.6 gain after the second year. For the experimental group the mean reading achievement was grade level 2.6; the mean for the arithmetic performance was 1.87; and the mean spelling performance was 1.87. (11)

The experimenter concluded it was difficult to evaluate the effects of the program on the personalities of the children; however, interviews with the parents and observations of the children disclosed no ill effects from the highly structured formal instruction.

Hunt (123) reports further evidence of the progress of these children after they were put in regular first grade classes in the fall of 1966:

> Of the 13 composing the two top tracks for the second year, one ranked, at the end of the first grade, in the middle ability-track at a school attended almost exclusively by children of professional people. The second was at the top of his class, and a third was doing well in a class for children of high ability in a program of Project Promise. Children four and five were at or near the top of their classes in a former ghetto school where the majority of their peers were now children of graduate students and the younger staff of the University of Illinois being bussed to that school. Children six and seven had done at least average work in these same classes, and child eight was doing well enough to hold on there. Child nine was doing well in the top track at a school for the children of parents of working-class background. Child ten was leading his class in a ghetto school. Children eleven and twelve were considered to be conduct problems at a school attended chiefly by children of the laboring class, but these two children were not in academic difficulty. Their conduct problems may well have been school made. Child thirteen was in this same school, had been somewhat less of a behavior problem, but he was doing only marginal academic work.
>
> Of the three children who were in the bottom group during the second year for Bereiter-Englemann, all had to repeat the first grade. This means that, of the total of 18 children (one had moved and two had been added during the two year period) involved in the first trial of this program, five failed. One had to be put in a class for the retarded during the first year, and four lacked the skills to enable them to cope with first grade. The outcome of that one who moved away is unknown. I suggest that this constitutes what might be called failure with approximately a quarter of the

> children involved. It may well be that the Bereiter-Englemann provided an improper match for the skills of these five with whom it failed. Whether any other remedial or compensatory program would have enabled them to cope with regular first-grade curricula is a matter of conjecture. It does appear that 12 of these 18 children have performed with fair to fine success in the first grade. In the absence of a control or contrast group, one can only say that this is a larger proportion of the 18 than one could possibly have expected to succeed in the first grade. (123:169-70)

LATER SCHOOL ACHIEVEMENT RESEARCH

One of the many remaining and potentially most important questions about early childhood education programs is the value which they have in future "pay off." Most people who ask this question want to know whether the children actually achieve better in school. Whether they do better in first or second grade is usually the first question that is asked.

This question gets directly to the heart of the controversy in early childhood education because some programs are specifically focused on teaching children skills directly related to the learning of basic reading and arithmetic, while others are focused on more extensive goals. Both types are concerned, however, with providing the child with better preparation for his early school years, for the promise of greater success in school will contribute to a more satisfying life for the child.

The goals of early childhood education actually extend beyond the school years toward helping the child achieve a more useful and satisfying participation in society as an adult. Opinions differ as to how to do this; therefore, programs differ. In this chapter, long-term outcomes are discussed without reference to specific goals or how the programs met these goals. Such a discussion is thought to be more helpful for the questions it raises than for the answers it provides.

RESEARCH FINDINGS

Early Research Emphasized Later Achievement

Interest in learning more about the relation of early childhood education to later school achievement began as early as the 1920's. Fuller (87) summarized seventeen studies that deal with this question. Of this number, fourteen indicated some finding related to positive values of early childhood education, while only two found no positive values. The seventeenth study did not directly concern school experence. This was the study made by Almy (5) in which she found a positive relationship between success in beginning reading and the child's responses to opportunities for reading prior to first grade. Almy did not specify early childhood education, but on the basis of her stress on the importance of early exposure to reading experiences as a "way of life" one might argue for rich group experiences under the guidance of well-qualified teachers.

Some of the positive findings relate to the specific academic accomplishments of the children. Fast (78) found the kindergarten children excelled in all areas of the Metropolitan Achievement Test--word picture, word recognition, word meanings, average reading, numbers, and average achievement. Superiority in academic areas such as reading and arithmetic was also found by Mott and Martin (162), Goetch (90), Risser and Elder (190), Pratt (185), Fast (78), and Lee (149).

School Progress Considered

Some investigators have been interested in progress in school. Morrison (161) found that more than 80 percent of the first grade pupils in those systems with kindergartens made normal or accelerated progress as compared to only 58 percent of the first graders in those systems without kindergartens. In view of the current interest in compensatory education, Teegarden (225) in 1932 found a conspicuous difference in favor of children with kindergarten experience in the industrial and middle class districts, while the difference was only slightly in favor of the kindergarten children in the residential districts. Of the children in the study who failed, the nonkindergarten children tended to fail during the first semester, while the kindergarten children failed during the second semester.

One of the most complicating factors in ascertaining the values of any program was pointed out by Hamalainen. (99) Most school officials reported a higher proportion of problems in scholastic achievement, social adjustment, and emotional adjustment for underage children. Fuller included Hamalainen's study to point out that if many underage children are admitted and comparatively rigid standards of achievement established, evaluation is colored markedly by the maturation factors.

Sputnik Influenced Goals of Schools

Improved or accelerated later school experience per se was not usually stated as a goal of early childhood prior to Sputnik, although even at that time there were parents who wanted to enroll children in kindergarten early in order that they could move through school at an earlier age. Beginning in the early 1960's the demonstration programs among the culturally disadvantaged, previously described, mostly in urban areas, began testing whether three- and four-year-olds can achieve concepts and skills in a preschool program that improve their chance of success in school. As descriptions of these projects indicate, most are longitudinal studies and will not be completed for several years. Any conclusion reached at this point would be that children tend to make gains in I.Q. but that gains tend to level off in first and second grade. Few of these studies report school achievement data in any degree of detail.

Recent Longitudinal Studies

Other recent studies with longitudinal evaluation of effects add to the body of knowledge but do not help to clarify the point. Hodges, McCandless, and Spicker (114) studied the effect of a diagnostically-based curriculum on psychosocially deprived children. There were three groups of children from rural and semirural Indiana in successive years beginning in 1964. Comparisons were made between the "diagnostic" kindergartens, regular kindergartens, and no kindergarten. Follow-up data are reported on the first two groups of children through the second grade, and on the third group through the first grade.

Through the second grade the diagnostically-based and regular kindergarten maintained their gains. By the end of second grade the control group had caught up so that differences were no longer significant between the treatment groups and the control groups.

Van de Riet (239) evaluated the effectiveness of the Learning to Learn Program (Sprigle) by comparing the culturally disadvantaged children in this program with a matched traditional nursery group and a no-education group. The developmental model for this program is that cognitive development proceeds through motor-perceptual-symbolic phases. It has three basic aims: (1) to help the child learn to learn, (2) to expose the child to a curriculum based on a continuity of learning experiences and development tasks, and (3) to provide the tools and techniques to stimulate movement from one phase of development to another. The Learning to Learn group performed better than the other two groups at the end of the preschool experience on the Stanford-Binet, the Peabody Picture Vocabulary Test, the Bender-Gestalt, the Illinois Test of Psycholinguistic Abilities, and the Metropolitan Reading Readiness Test. The traditional group tested significantly higher than the no-education group. By the end of first grade, while the Learning to Learn children performed significantly better than the no-education group, the differences between the traditional group and the no-education group had begun to disappear. On teacher ratings, the teachers saw the children in all three groups as essentially similar in terms of their ability to get along with others in overall discipline. On more academic variables the teachers saw the children in both groups with preschool experience as very superior to the children without such experience.

Coffman and Dunlap (56), (57) at University City, Missouri, have been engaged in a program to foster intellectual development of prekindergarten children through a personalized program based on assessments of each child's developmental skills. Four classes were organized, three of which focused on an area of special weakness (motor, auditory-language, or visual) for approximately twenty minutes each day. The fourth, or cognitive class, was for children who showed no major weakness in the first three areas. They were given a program to develop cognitive skills. Matched control groups were identified with and without nursery school experience. At the end of the first year, children in the cognitive class showed less posttest over pretest growth than children in the other three classes. The experimental group as a whole made significant gains in more skills-development areas than the control groups. The control group with nursery school experience showed gains in more skills-development areas than children who attended no school. In general, girls seemed to benefit more than boys by attending either the prekindergarten program or a good nursery school. At the end of the second year (kindergarten), no significant differences were found among the three groups either in skill development or in readiness for the first primary year. At the end of the third year, experimental boys showed significant growth in cognition and two developmental skills as well as superiority in reading. For experimental girls, the program increased skills of visual-motor integration but had no significant lasting effect on other developmental skills, achievement, or intelligence. The authors concluded that boys benefit more from the individualization of programs than girls do. It appeared that differences which were present at the end of the prekindergarten year were lost at the end of the kindergarten year, and reappeared at the end of the first primary year.

Pitts (184) compared the social growth, emotional development, academic readiness, and general readiness of kindergarten children with varying amounts of prekindergarten formal school experience. A group of eighty-seven kindergarten children matched according to age, sex, birthplace, and ethnic background were divided into three experimental groups. One group had participated in a nine-month preschool program, the second in an eight-week summer program, and the third had no formal antecedent school experience. Instruments used to gather data were the Brenner-Gestalt Test of School Readiness, the Metropolitan Readiness Tests, and the Operation Head Start Behavior Inventory. Pitts found that the length of preschool attendance was positively related to facilitating such dimensions of social growth as cooperation, independence, and dependability but was not related to the academic readiness or the total readiness of the groups studied. Differences, though not significant, were in favor of the longer period of attendance.*

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*This review has been limited to the research that relates to the general relationship between attendance in early childhood programs and later achievement. There is a body of research that deals with the more specific question of the relationship between attempts to teach specific academic skills in early childhood programs and later achievement in those particular skills. Since this could not be treated adequately, it has not been included.

Head Start Follow-up Studies

The 1969 review of Head Start research (98) goes into some detail regarding follow-up studies of Head Start. While the evidence is quite consistent concerning the impact of a Head Start program, the evidence is more contradictory concerning the long range impact of Head Start. This review indicates rather uniformly that Head Start children do not lose what they have gained through their Head Start experience but tend to level off to a plateau which allows other children to catch up with them. (4), (50), (52), (110), (117), (131), (144), (160), (183), (253)

Follow-up of full-year as well as summer programs continues to provide variability of results, especially when program differences are identified. One study found that Head Start children who enter a middle class public school appear to sustain their advantage over non-Head Start children, whereas similar Head Starters who go into a slum school do not. (128)

> Other studies have found that children whose parents were volunteer participants in Head Start programs sustained their gains better than children whose parents had been actively recruited for participation in the program (117) or children of parents who had a high level of participation retained their gains better than children of parents who did not have a high level of participation in Head Start. (33)
>
> Marvin Cline and Marguerite Dickey (55) followed-up a group of Head Start children from a summer 1966 program and found no significant differences from children who had no Head Start experience in any intelligence or achievement tests at the end of the kindergarten year. On the other hand, Kuno Beller found that children who had a preschool experience scored higher on the Stanford-Binet and Draw-A-Man Test at the end of first grade than children who had no preschool or kindergarten experience. Further, he found that children

> who had any preschool experience, whether nursery or kindergarten, achieved significantly higher grades in arithmetic, reading, and writing than children who entered first grade with no prior education. This same pattern was evident from the first report cards of the second grade. Beller was following up a full-year program, Cline a summer program. (98:40)

There has been some hint of a latent effect of the Head Start experience. Siegel (208) found that Head Start children did not differ significantly from non-Head Start children at the beginning of kindergarten, but did differ at the end of kindergarten. Steglich (217) found no significant differences in a follow-up of Head Start summer 1965 children and controls at the end of first grade. However, he found slight increases in the number of superior Head Start children at the end of second grade. Hubbard (121) found little difference between Head Start and non-Head Start children in reading at the end of second grade although there were differences at the end of first grade, but he found greater gains in oral language at the end of second grade than at the end of first grade. (98)

A study of the impact of Head Start, conducted from June 1968 through May 1969 by the Westinghouse Learning Corporation and Ohio University (247), attempted to identify the extent to which the children now in the first, second, and third grades who attended Head Start programs are different in their intellectual and social-personal development from comparable children who did not attend Head Start. A sample of 104 Head Start centers across the country was chosen. A sample of children from these centers who had gone on to the first, second, and third grades in local area schools was matched with control children from the same grades and schools who had not attended Head Start. Parents of both the former Head Start enrollees and control children were interviewed. Major conclusions of the study were as follows: (1) Summer programs appeared to be ineffective in producing any gains in cognitive and affective development that persist into the early elementary grades. (2) Full-year programs appeared to be ineffective as measured by tests of affective development used in the study, but were marginally effective in producing gains in cognitive development that can be detected in grades one, two, and three. Programs appeared to be more effective in mainly Negro centers, in scattered programs in central cities, and in Southeastern centers. (3) Head Start children still appeared to be considerably below national norms for the standardized tests of language development and scholastic achievement, while performance on school readiness at grade one approached the national norm. (4) Parents of Head Start enrollees voiced strong approval of the program and its influence on their children.

PROJECT FOLLOW THROUGH

Benefits of Head Start Continued

It has gradually become apparent that for the disadvantaged child one summer or one year of preschool is not enough to overcome the effects of deprivation in the early years. President Johnson (234), in his February 1968 message to Congress on children and youth, asked that the achievements of Head Start not be allowed to fade. He called for the establishment of Follow Through to carry the benefits of Head

Start through the early grades.

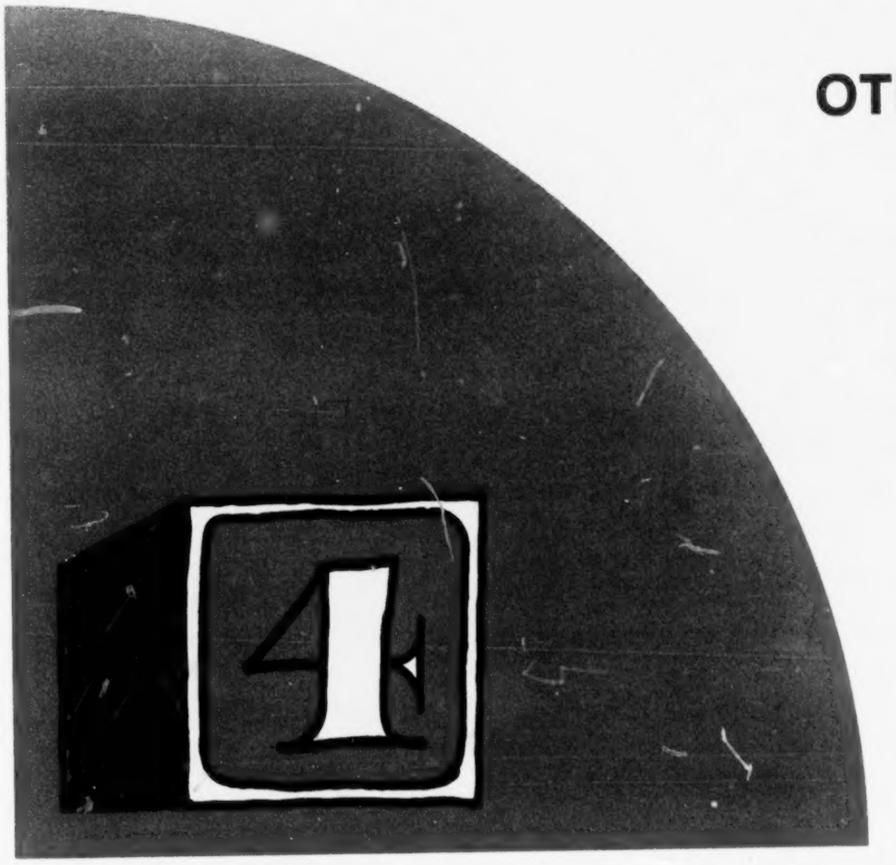
Follow Through is designed to capitalize upon and supplement the gains poor children made in preschool programs. Administration of the Follow Through program, authorized under the Economic Opportunity Act, was delegated to the U.S. Office of Education. Policies and program guides have been developed cooperatively by the two agencies. In the school year 1968-69, 15,500 poor children participated in 92 Follow Through programs. Funds were concentrated on the exploration of new strategies for intervening in the lives of young disadvantaged children, since early childhood programs had not been notably successful in reaching poor children and since a number of alternative programs merited further investigation. (234)

Different Approaches Used

The main emphasis of the Follow Through program in its initial stages was to increase understanding of effective program approaches and to provide better guidance for future allocation of support. Beginning with the school year 1968-69, 14 approaches for working with poor children were being used. "The approaches range from a very structured, highly cognitive, instructional approach to a less structured, 'child centered' approach; from a parent education approach to a parent educational decision approach. The program sponsors will work closely with respective communities throughout the development, implementation, and evaluation of these approaches." (234:A2) In each case the special program took place within the context of a more comprehensive program of educational, health, nutritional, social science, psychological, and training activities for Follow Through children, parents, and staff.

Education in Progress

Follow Through programs will be evaluated at the local, the program-sponsor, and the national level because comprehensive long-term assessment will be of crucial importance in providing much needed information on the strengths and weaknesses of the different approaches, especially in a variety of settings. No evaluation results are available yet. For the next several years Follow Through can be expected to expand slowly, but it is hoped that as new early childhood approaches are found to be effective, Follow Through will expand rapidly into a nationwide service program for poor children from kindergarten through the primary grades. (234)



OTHER RESEARCH FINDINGS

A look at some of the more elusive areas that have implications for early childhood education may help us get a broader perspective on the problems we face today in designing new and more effective programs. In the mad rush, so much a part of today's educational scene with its pressures to ensure that youngsters do well in school, we could easily overlook important factors that would prevent the child from receiving maximum benefit from his school experiences. It is well within the realm of possibility that the direct approach to cognitive development in early childhood education is not the most effective way to produce competent members of our society and that we need to look further for approaches to early childhood education that will be effective with children who have many differing kinds of needs.

What Values Serve Children Best?

One of the questions we must ask is whether we have a firm basis for evaluating new information in terms of the values that have been found to serve the best interest and well-being of young children. Hunt (123) has pointed out that there are values and controls upon which a peaceful, organized, technological society depends, which are more fundamental than middle class norms or matters of taste. These values are essential for competence in the mainstream of society.

> Although one must acknowledge that certain laws are either unjust or out of touch with the current realities, these values include a respect for law that demands compliance except in those exceedingly rare instances where breaking the law while accepting the personal consequences appears to be required to force the changes toward a higher level of justice. They include concern for the needs of others, basic honesty, that dependability which makes a man's word as good as his bond, and a degree of tenderness coupled with recognition that violence is almost always a matter of destruction without solving the problem. The children of our slums have little opportunity to develop such values and standards. (123:157)

One of the stickiest of all evaluation problems, and one that most programs tend to avoid, is, How worthwhile are the goals that are being evaluated? If we are able to prove beyond doubt that specific behavioral objectives have been achieved, is the learning behavior really important or relevant?

In discussing the evaluation of language curriculums for preschool children Carolyn Stern (219:59) raised two questions that we would do well to think about in this context:

> Does improving the child's ability to discriminate environmental sounds and distinguish differences and similarities in geometric or pictorial visual forms actually lay a solid foundation for learning to read?

> Does exposing disadvantaged children to a variety of experiences so they can produce coherent stories about them in a limited dialectual form mean that these children can then use language to conceptualize, classify, and form schemata with which to integrate the data in the real world?

It is apparent from much of the preceding discussion that most preschool intervention programs are considered successful if they can demonstrate that children who complete the program are more likely to succeed in primary grades. But is this the ultimate goal?

How Do We View Children?

Dr. Mary Lane, in her address to the National Association for the Education of Young Children in 1966, raised the basic philosophical question that we must answer: What do we see when we see a child? Do we see the child as an individual in his own right or do we see children as extensions of ourselves, as little adults, or as toys or puppets to do our bidding? A major component of the answer lies in whether we believe in the ladder concept of learning and development as an adequate description of growth and development, or whether we believe that the process is more appropriately described as an unfolding or reaching out to the environment with all of the personality. Do we believe it is possible for the child to focus on academic objectives and relegate all nonacademic objectives to a secondary position, or do we believe the child responds with all of himself--with all of the emotional and cognitive factors in a child's personality being so interwoven as to be inseparable? Another component of what do we see when we see a child is: What do we value in the years from two to five or birth to five? For example, do we value choice as a component of a young child's environment in school? Do we value regimentation? Do we value conformity and sanction punishment? Do we value uniqueness? Do we value in the young child a sense of joy or satisfaction when he has coped satisfactorily? If so, how do we show it? (147:220-21)

The areas to be discussed in the following sections are all seen by the writer as having significance for answering some of the questions that have been raised. The questions could further be phrased as what do we know, or what are we finding out, about the education of young children that could help provide programs of greatest value?

EARLY STIMULATION

Recent Research Supports Programs for Infants

Traditionally, educational agencies have maintained a "hands off" attitude toward the family's treatment of the infant and young child. However, there are indications that this attitude may no longer be justified in the case of some infants. A variety of psychological investigations have indicated that the longer a young organism lives under any given kind of circumstances, the harder it is to alter their influence. Part of the basis for this belief comes from experimentation with animals, but in a large measure it comes from longitudinal studies of human development such as have been organized by Bloom. Measures of intelligence, of academic achievement, and of attitudes, interests, and values indicate that stability increases with age. Hunt has summarized Bloom's findings as follows:

> With I.Q. at age 17 as the criterion for intelligence, about 50 percent of the variance among individuals is accounted for by age four, and about 80

> percent by age eight. With vocabulary at age 18 as the measure of academic achievement, about 50 percent of the variance among individuals is accounted for by age nine. With measures of aggression, dependency, and intellectual interest at adolescence as the criterion, about 30 percent of the variance is accounted for by age two and about 50 percent by age five. Because these correlations between successive measures of every characteristic involve part-whole relationships with the predictor-part becoming a larger and larger portion of the criterion-whole with time, it becomes clear that the inertia increases with age because more and more of the individual's abilities, attitudes, motives, and values must be changed. It appears that the longer a developing organism lives under any given kind of circumstances, the harder it is to alter their influence on both developing behavior and body. (126:15)

Malnutrition Limits Growth of Brain

Evidence that circumstances encountered will influence even the anatomical maturation of the nervous system is accumulating. Malnutrition serious enough to limit height and weight gains in infancy will also limit the growth of the brain. When the brain sizes of seriously undernourished children are compared with the brain sizes of well-fed children, the average size of the brain for undernourished children is significantly smaller. Scrimshaw (202:65) explains, "... to the extent that brain growth is impaired concurrently with early retardation in linear growth, more than 300 million children are in jeopardy today."

Environment Influences Development

We have not always taken seriously the orphanage studies by Skeels and Dye, and we may be shocked by experiments of biochemists which indicate that a rat placed in an "intellectually enriched" environment actually develops a brain with a heavier and thicker cortex, a better blood supply, and larger brain cells than does an animal whose life has been less memorable. (143:373) But we cannot afford to ignore the conclusion that Krech draws from his experiments:

> Indeed, a review of all the data indicates that manipulating the educational and psychological environment is a more effective way of inducing long-lasting brain changes than direct administration of drugs. Educators probably change brain structure and chemistry to a greater degree than any biochemist in the business. (143:373)

Institutionalized children, who are well-fed and genetically normal but deprived of affection and stimulation at an early age, may show marked mental impairment. Psychological and social deprivation, such as nonstimulating home environments, poor educational facilities, and lack of incentive due to repeated discouragement, common among malnourished children, can directly affect intellectual performance. There appears to be a close relationship between dietary deficiencies and environmental influences, (86:9) and it also appears that the infant and very young child are particularly vulnerable to both.

Behavioral Development Is Investigated

Within the domain of behavioral development in human infants the evidence of the effects of circumstances has also been accumulating. According to the findings of Burton White, infants reared under natural conditions show a dramatic surge in both visual activity and development at the middle of the second month of life. During the next 3 1/2 months the child develops the "flexible accommodative function"; discovery of the hands and gradual development of manual control by the visual system, culminating in visually directed reaching; initiation and complete development of the blink response to an approaching visible target; the initiation and complete development of visual convergence; and the onset of social smiling. (249:168)

Studies by White indicate that aspects of early visual motor development are remarkably flexible. At the very least the onset of hand regard and visually directed reaching and the growth of visual attentiveness are significantly affected by environmental modification. This development is considered to be of enormous importance in early perceptual motor development. (249:168)

Hunt and his associates have found that infants who have mobiles hung over their cribs at five weeks of age show blinking to an object approaching their eyes at an average of seven weeks, while other infants whose mothers have agreed not to put anything on their cribs, failed to show this blink-response until an average age of 10.4 weeks. (123:153) It is not the mere development of these particular responses that is important, but rather that these findings suggest that such increases in the rate of development may be cumulative. "When such simple sensorimotor organizations are hastened in their development, they become available for coordination with others at this earlier age, and this allows these more complex organizations at a progressively earlier age." (123:153-54)

Caution Is Sometimes Needed

In reviews of research on stimulation one rarely finds words of warning or descriptions of any ill effects. Such cautions do occur, however, and concern for the best development of the children would mandate that they be heeded. In attempting to find ways to prevent delayed motor response due to lack of visual stimulation in institutionalized infants, White studied a group of six-day-old normal babies seeing that they got more opportunities than is usual to look around and see bright objects. He found that this special stimulation upset the babies; they cried a lot and paid less attention to their surroundings. However, when he treated 2 1/2-month-old infants in the same way, favorable responses resulted. These babies smiled at objects, vocalized, and seemed happier than unstimulated controls.

Jerome Kagan of Harvard University, who observed differences between babies from different socioeconomic backgrounds, observed that the distinctiveness of the stimulation, more than the amount of stimulation, marked the difference between children from middle and lower socioeconomic groups. (207) Senn concludes on the basis of these studies that the timing and amount of stimulation are important and that inappropriate stimulation, as well as overstimulation, may be as disastrous for children as understimulation.

Focus of Stimulation Programs

Experiments in early stimulation are aimed in two directions: the kind of stimulation and services that should be available to the child early in his life to enhance his development, and the identification of the services to parents that will support their development as adults who can nurture their children. Although a number of researchers are concurrently working in this area, findings are still limited.

One type of experimental program is the Parent and Child Centers, which were set up as pilot programs under the Director of the Office of Economic Opportunity under instructions from President Johnson. These centers provide services for disadvantaged families who have one or more children under the age of three. The general objective is to help families to function independently and effectively and for their children to develop to their full potential.

The theoretical framework of Parent and Child Centers is very similar to that of the Head Start program, with the exception that Parent and Child Centers focus on families and infants and children younger than those served by Head Start. They focus more heavily on preventing deficits from developing, put more emphasis on reinforcing parental skills, and are expected to work with the entire family. Each program must have comprehensive health care for the child; activities designed to stimulate physical, intellectual, and emotional development of the children; parent activities; social services for the entire family; a training program for professional and nonprofessional personnel; and a program of research and evaluation. Some of these centers are now in their third year of operation, but no research results have been made available. (174)

Another project in progress is the Frank Porter Graham Child Development Center at the University of North Carolina at Chapel Hill, where a day care center for 31 infants and young children varying in socioeconomic status, race, and sex is provided in two cottage units. In January 1967, the children ranged in age from 6 months to 4 1/2 years. For the children under one year of age, educational activities occur whenever the child seems happy and receptive. Typically sensorimotor experiences emphasizing the sounds of music and the human voice, the sight of projected pictures and hanging mobiles, and the feeling of a variety of tactile toys are provided by the Cottage Parent who is with the child all day. From the time the child begins walking until he is almost three years old, the educational program occurs in the playroom of the child's cottage. The older children attend a preschool education facility for part of the day. Through the Center's coordinated research program several ideas are being tested: (a) The best time to intervene into the cycle of deprivation and inadequacy is the period of infancy and early childhood. (b) If early experiences are continuous with later ones through the school's encouragement of the same skills and abilities cultivated earlier, the gains made through the preschool program will not be lost. (c) Only by a full-scale and energetic program can the potential effects on children of favorable early experiences be assessed, whether children of the poor or of the middle class. (83), (191)

Another project is the Children's Center sponsored by the Department of Pediatrics, Upstate Medical Center, State University of New York at Syracuse. The unique feature of this project, for children between the ages of six months and five years, is group-oriented care for children under three. The investigators offer as their hypothesis the proposition that an appropriate environment that can offset any developmental detriment associated with maternal separation can be created. Possibly, it can add environmental enrichment frequently not available in families of limited social, economic, and cultural resources. (242)

The Demonstration Project, Group Care of Infants, at the University of North Carolina in Greensboro differs from those previously described in a number of ways. These are not necessarily children from disadvantaged homes; they are children who would be cared for outside their homes because both parents work or are students. The purpose of this demonstration is to produce answers to such questions as, "Is warm, affectionate, individualized mothering for an infant possible in a group setting? Can the beneficent intimacies of home life be replicated when infants and toddlers are cared for in groups? Can adequate protection of physical health be assured to babies who are daily taken outside their own homes? Can constructive social relationships be formed and appropriate intellectual stimulation be offered to children under the age of three whose mothers arrange for their care in a group?" (139:10)

The babies and toddlers in the Nursery Center are paired with "Home Babies" matched on the basis of sex, race, education of parents, and where possible, birth order. Repeated measures are being made on 14 well-matched pairs in their physical-medical, mental-motor-sensory, social, and emotional-personality development. Almost no differences have been found between the control babies and the nursery babies. If over a period of two to three years differences do not appear, in answer to the question of assignment of infants and toddlers to centers for day care, Keister feels: "There can be only a 'No, unless...' or a 'Yes, if...' answer to a question such as this. No, babies may not be expected to thrive in a group situation unless very special provision is made for 'individualizing' the care they are given. Yes, babies may be expected to do very well in a center if care-giving of a certain quality is provided." (139:25)

Sally Provence (186) at the Yale Child Study Center, Yale University of Medicine, has instituted a research project based on two major assumptions: that services to enhance the child's development should be available to him as early in his life as possible, and that services to parents to support their development as adults who can nurture their children are an important aspect of making children's services effective. The children in this project will be studied in a day care center, in a pediatric clinic, and in individual testing and play sessions by both participant and nonparticipant observers. The multidisciplinary research team includes investigators from the fields of medicine, child development, psychoanalysis, social work, early childhood education, psychology, and nursing. The research advantages of this approach are believed to derive chiefly from the fact that when parents receive response to their own and their children's needs in the form of advice, emotional support, and alleviation of suffering, they tend to develop trust in the members of the research team. This gives the researchers access to information about the parents and their children that would otherwise be unobtainable in settings that are not artificially controlled.

Findings of Current Projects

It will be interesting to follow the findings of these projects when they become available. Such studies have tremendous implications for the stimulation that should be provided for the maximum development of infants, toddlers, and preschool children, particularly those who are growing up in home situations that are not able to provide adequately for children.

POTENCY OF MODELS

Effecting Behavioral Change Has Many Facets

The question of how to effect behavioral change or to develop desired behavior in young children has many facets, one of which concerns the older, significant people in the life of the child, those persons who serve as models for the children. In a summary of research on the potency of models, Bronfenbrenner (40) has indicated that behavioral change in the child can be facilitated by placing him in an environment in which he is exposed to models exhibiting the desired behavior at a level that the child can emulate with some success. The potency of the model is considerably enhanced when the child feels a strong emotional involvement with the model, when there are complex patterns of interaction, when the person is perceived as having high status, and when the model represents a group of which the child is, or aspires to be, a member. The child will tend to adopt patterns of behavior that are prominently engaged in by his family, his classmates, the neighborhood gang, and older children whom he admires.

Mothers As Teachers

The research that Hess and his associates (111) have conducted helps in understanding the relationship between the teaching styles of the mothers and the learning styles and information-processing strategies in their children. One hundred sixty-three mothers and their four-year-old children were divided into four groups on the basis of socioeconomic differences. Each mother was interviewed twice and asked to teach her child to do three tasks.

One of the most striking findings from the data was the decreasing use of cognitive style dimensions and increasing nonverbal responses with decrease in social-status level. The picture which emerges is that "the meaning of deprivation is a deprivation of meaning," a cognitive environment in which behavior is not mediated by verbal cues or by teaching which relates one event to another. (111:885)

On matters of language skills and number skills, parents in poverty typically talk less often to their children than do parents in the middle class. They seldom ask questions that prompt their young children to note the various perceptual characteristics of objects and to respond with language classifying these characteristics. When the children themselves ask questions they are all too often told to "shut up."

> In short, what these children of poverty and lower-class background learn in the way of language, motivation, and standards of conduct before they are old enough to enter our traditional schools makes them incompetent and typically unfits them to profit from the circumstances provided by the curricula of our traditional schools. This occurs despite the abundant love these poor parents have for their children. (123:159)

Since the disadvantaged child's parents and intimate associates typically do not exhibit the behavior and motives that the child needs most to learn, and since they do not reinforce sufficiently such behavior and motives when they are exhibited by others in the environment, "it follows that any appreciable, enduring improvement in the child's development can be effected only through an appreciable enduring change in the behavior of persons intimately associated with the child on a day by day basis." (40:6) This change can be effected in two ways: by trying to modify the actions of those who constitute the principal figures in the child's world, or by introducing into that environment persons who can serve as appropriate models and reinforcers and who stand some chance of building an enduring relationship with the child.

Parents As Models

This phenomenon of modeling is the most important reason for involving parents in the educational activities of their children. If parents and other close associates of young children are given motivation, opportunity, and exposure to the kinds of activities that are enjoyable and instructive for young children, they can do a great deal to further the psychological development of the children in their midst. If the parents are aware of the patterns of behavior already in the child's repertoire that need to be maintained and of those that need to be extinguished, they can be instrumental in helping him maintain the desirable behavior.

Teachers and Classmates As Models

When the child enters a preschool program it is possible for the teacher to establish a personal relationship with him. The influence of a teacher is limited when the class is large, but with small classes and assistance in the classroom the likelihood that the child will build a meaningful relationship with one of the adults increases. It has been the feeling of many who have worked with disadvantaged children that it is difficult for the lower class child to build a close relationship with the middle class teacher. This is one of the reasons why assistants from the child's own social background have been used so extensively.

Recent research indicates that a child's classmates have far greater consequence for the child's intellectual, emotional, and social development than we have heretofore recognized. The Coleman report revealed that how well a child did in school depended less on educational facilities or qualifications of the teachers than on the characteristics of the child's schoolmates. Disadvantaged children who attended schools in middle class neighborhoods tended to acquire the characteristics of the children in the class. (58) An analysis of national survey data in the 1967 Report of the U.S. Commission on Civil Rights showed that the beneficial effects for a disadvantaged child of being in a class with nondisadvantaged pupils increased substantially with the increasing proportion of nondisadvantaged pupils in the class. (233) Unfortunately, nonadaptive or antisocial behavior is as readily communicated as competence or constructive action. It has also been shown that white children in predominantly Negro Schools perform on the average below comparable white children in predominantly white schools. Since social contagion is a two-way street, the consequences of this kind of modeling may turn out to be troublesome. (40:7)

Older Children As Models

Some of the same problems are inherent in using older children from the neighborhood for tutors, escorts, and playground supervisors. Although teenagers no doubt exhibit some behavior that a disadvantaged child needs to learn, much might also be learned that would be negative in its impact in the cognitive sphere and even more in the emotional and social spheres. The amount of assimilable constructive behavior may be too small to outweigh the negative values. (40:7)

Problems in this area are extremely difficult to solve--how to help teachers relate to children in ways that will help the children see them as potential models, how to identify and use the strengths that do exist in families and communities, and how to provide children with the models that will help them learn the language, motivation, and standards of conduct that they must have in order to cope with the demands of organized society.

PARENT INVOLVEMENT IN EDUCATIONAL PROGRAMS

How Do We Get Maximum Impact?

An unanswered question that has provoked a great deal of research is how can parents be involved in the education of their children in ways that will provide maximum impact both in terms of the child's abilities and the improvement of the effectiveness of the parent. Building upon the knowledge that disadvantaged parents are frequently ill-equipped to supply this kind of stimulation, several investigators have devised programs for providing training for parents or for extending the activities of the school into the home.

University of Florida Project

One of the better-known projects is the Parent Education Project at the University of Florida, headed by Dr. Ira Gordon. (93) Dr. Gordon's technique is to use disadvantaged women to teach mothers how to stimulate their infants. Women selected for the parent educators came from the same general background as the mothers with whom they would work. They were selected on the basis of their experience with babies, ability to communicate verbally, ability to comprehend a short written description of the project, and interest in the basic aim of the work. After five weeks of intensive training, field work gradually started under supervision. The normative work of Gesell, Cattell, and Bayley was used to provide some of the stimulation tasks and to clarify the order of presentation. The materials were so organized that each item or exercise was introduced to the infant just before the behavior should occur according to the norms. The emphasis was upon modeling for the mother who would eventually extend the behavioral pattern to the child. Part of the training program included teaching the mothers to make simple toys and mobiles from objects readily at hand or very inexpensive to obtain, to overcome the lack of materials that might delight and stimulate the child during all those long hours when he is left to his own amusement. Subscriptions to Life and Ebony were purchased so that parent educators might take them to each home as a small reward, as well as for use later in exercises that made use of magazine pictures in labeling and identification.

The answer to the first question asked in the research, whether parent educators can be recruited, selected, trained, and placed in the homes, was a quite clear yes. Of the original 15 parent educators employed, 13 were still on the staff more than a year later. The second question was whether a relationship between the parent educator and the mother could be sustained over time. Continued participation was to some degree contingent upon the mother's understanding and acceptance of a future gain for the child that was not observable in the early stages of the project. Two-thirds of the attrition between July 1 and September 30, 1966, was due to moving from the area of the project. Some reports by parent educators indicated that the program violated to some degree the norms of the culture, and some mothers stopped working with the project because they were ridiculed by another family member for talking to children when it was obvious that babies could not talk back. The third question was whether the children benefited from the program. From testing at six months and one year, it was found that the test items on which the control babies did best were the earlier, less difficult items while the experimental babies did better on the later, more complex ones. The data permitted a cautious yes answer to the question. (93)

Ypsilanti Project

The Ypsilanti Home Teaching Project (244) was an effort to explore the feasibility of sending teachers into the homes of disadvantaged families to provide a training program for the mother and a tutoring program for the preschool child without an accompanying classroom program. Only four-year-olds and their mothers were included. Each mother and child were visited for 1 1/2 hours per week and were involved in a carefully individualized program. The contact was to permit the systematic development of the foundations necessary for the intellectual functioning of the child through direct tutoring of the child by the teacher, and to give occasion for the development of language, teaching, and child management skills in the mother through direct mother-teacher interaction during the tutoring session.

Mother acceptance of the project was good and encouraged the staff. Ninety-two percent of the appointments were kept. However, on the Stanford-Binet there were no significant differences between group means of the experimental and the control groups, although there was a significant difference in the growth rate of the two groups. Also, no differences were found on the Peabody Picture Vocabulary Test. Higher cultural rating of the family corresponded to a higher measured intellectual level for the child, and the more children in the home, the lower the measured intellectual level.

University of Vermont Project

Five low-income families were selected to participate in a two-year pilot project by the Family Living and Human Development area at the University of Vermont. (198) These were all young families; mean age of the women was 20 and of the men 22.5. Their mean educational attainment level was grade nine. A program of activities was planned for parents and their children, a total of ten, once a week. No evaluations were made of the children's progress, but mothers expressed great pleasure at being included in the project and asked to have it continued a second year. Developers of the project report that possibly the greatest service it offered was assurance and support.

In the second year of the project six middle class families were added. At first it was not easy for the group to relate, but two or three outgoing people maintained interactions, with the parents continuing to speak openly about problems. Introducing the middle class families into the group seemed to help the lower class parents to relax and to let their children pursue the program more freely. The project seemed to demonstrate that the way to a child's development is through the parents, and more particularly through the mother who is at home with him most of the day. Samenfink expressed the thought that lower class parents needed to be exposed to new materials and learnings before they could learn to want some of the things that could be of great worth to their families.

Project Head Start Parent Involvement

From the very beginning parent involvement was a component of Project Head Start, and there were studies on parent involvement, parent characteristics, and parent role in the development of children. It was hardest for Head Start to reach the families that needed it most, particularly in 1965. Chandler (49), in a comparison of families who enrolled their children with families who did not, found the families of Head Start children had a higher educational level, used community resources more, showed more aggressiveness in terms of socializing, and were more intact than non-Head Start families. In a similar study

Holmes & Holmes (117) found that parents who referred their own children to Head Start held values more like those of the middle class than did parents who were sought out. One major difference between the self-referred group and the sought-out group was the fact that the sought-out group had not heard about Head Start. Parents who were sought out but who did not send their children had low job and education aspirations for themselves and their children. (98:31) Parents consistently approved of the Head Start program, rating it very high in helping their children get ready for school. (159), (178) Parents' expectations of Head Start were not always the same. Some found that the greatest value came in the area of interest in new things, and some rated social skills as the most important gain of the program. Sigel (209) found that Head Start mothers stressed obedience and compliance to authority in order to get an education more than did middle class mothers. (98)

Mental Research Institute Project

Parent involvement has sometimes been limited to attendance at meetings, conferences with teachers, and occasional visits to the classroom. However, many parents have actually been participants in the program. Leler (150) conducted a compensatory preschool program in California sponsored by the Mental Research Institute in Palo Alto. In this program half of the mothers participated intensively, that is, attended a parent education class weekly and participated in the program weekly, and the other half participated and attended classes monthly. Although the difference in the gains made by the two experimental groups of children was not statistically significant, both groups progressed rapidly with the parent involvement. During the first eight months of the program, the two groups combined made an average gain of approximately 18 I.Q. points on the Stanford-Binet, an average of approximately 20 for the intensive group and 16 for the monthly group. There was no control group but these gains are impressive when compared to other programs with no parent participation. The children continued in the program for two school years. A follow-up two years later as the children completed first grade showed that the children in both groups combined averaged approximately 95 in I.Q., in comparison with their average of 87 at the beginning of the program. At the end of the two-year preschool experiment, the program was continued under parent control, largely led by the mothers who had participated intensively, and Head Start support. The school is still in operation.

The role of parent-as-teacher in Head Start has been investigated to find out if, indeed, "teaching" in Head Start does help to bridge the gap between the meager learning environment of lower class homes and the preacademic skills generally learned in middle class homes. In a study by Stern (218) the experimental design consisted of four different treatments: (1) The teacher gave materials to the parents for use at home and used the same materials in the classroom. (2) The teacher used the materials in the classroom only. (3) The teacher provided the materials for the parents to use at home but did not use them in the classroom. (4) The teacher made no use of the special materials in a control group. Results showed no differences among the three experimental groups in the Parallel Production Test, but the three experimental groups were significantly superior to the control group. Home and school treatment was significantly superior to all other groups on the color test. (98)

Small Group Meetings and Counseling for Parents

Clarizio (53) tried providing a different kind of service to two experimental groups and one control group of four- to five-year-old children. Children in the two experimental groups were enrolled in an eight-week summer Head Start program. Small group meetings with regular staff and guest speakers constituted the main form of parent involvement for group I. They were not asked to visit the classroom. Group II received the same treatment as group I with the addition of an experienced social worker. The counseling relationships, on both an individual and a group basis, constituted the primary medium for communicating with the parents. Group III, the control, was not involved in Head Start or parent activities. The Teacher Rating Scale showed changes in the predicted direction, but they were not significant. Parent activities did not lead to significantly greater participation at follow-up.

The Effect of Parent Involvement

McCarthy (153) investigated the effect of three kinds of parent involvement on the language and intellectual abilities of Head Start children. The children in group I attended Head Start classes, but no effort was made to give guidance to their parents unless the parents sought advice from the teacher. The children in group II attended Head Start classes, and the researcher worked closely with the teacher and school principal in an effort to involve parents in group meetings. The children in group III attended Head Start, and the researcher developed an individualized home-visit plan to work with the parents. The design of this study included administering the Peabody Picture Vocabulary Test to the forty-one children to obtain a measure of intelligence at the time the experimental program was initiated and again when the program was concluded. To measure the language abilities of the children, the Illinois Test of Psycholinguistic Abilities was administered in the same manner. The parents of each child in the sample completed the Parent Attitude Survey prior to the initiation of the program and again at the end of treatment. The children whose parents participated in the home-visit parent involvement showed significant gains in language abilities and nonsignificant gains in intellectual abilities. Parents of these children showed a significant positive change in parent attitudes. The children whose parents participated in group meetings showed gains in language abilities and intellectual abilities that were not significant. The survey showed a positive, but nonsignificant, change in attitudes. The children whose parents did not participate in any kind of parent involvement showed no significant gains in intellectual or language abilities, and the parents reflected no change in attitudes, which were marked with negativism on both analyses. McCarthy concluded that, contrary to general opinion, disadvantaged parents are concerned about their children and willing to cooperate with school personnel when a plan is devised that is within the realm of capabilities.

With the exception of the activities of cooperative nursery schools and kindergartens, the involvement of parents in more than an occasional group meeting is a relatively unexplored area, although Head Start research is beginning to provide some information. There are many reasons why this kind of activity has been difficult to initiate: lack of teachers experienced in working with parents; failure of the school personnel to understand parents, particularly parents from a disadvantaged environment; and failure of school personnel to understand the advantages, both to the child and to the school, of good home-school relationships. We have even less experience in working with the parents of infants and toddlers, but we are beginning to have some leads from the current experimentation. If we follow the implications of the research on the significance of models, further experimentation in the area of parent involvement seems absolutely essential if we are to have the greatest possible effect on the developing abilities of children who are enrolled in early childhood programs.

ROLE OF THE TEACHER

There are two major questions about teacher behavior that seem particularly appropriate to a discussion of values in early childhood education: What teacher behavior seems to be associated with what child behavior, and what is an appropriate role, or what are appropriate roles, for the teacher to assume in relation to the child and the curriculum? This section is not an attempt to look at all the literature or teacher behavior. It will concentrate on some attributes of teacher behavior that seem to emerge from the recent projects in early childhood education.

Role of Teacher Is Still Unclear

Burgess (44) pointed out that early kindergarten teachers were expected to be "delighted participants in children's activities," but nursery school teachers were affected by Watsonian psychology and emphasized "objectivity," standing back and observing, withholding physical assistance or affection in order to encourage independence. More recently the role of the teacher has reflected trends in psychology that give significance to the effect of warmth and acceptance on learning, and in other programs the effect of cognitive psychologists has been to cast the teacher in a very directing and authoritarian role.

Some of the classic studies on the role of the teacher were done by Anderson and his associates between 1937 and 1946. (15), (16) (17), (18), (188) Employing naturalistic settings in nursery school and kindergarten and later in primary grades, Anderson studied integrative and dominative ways of working with children. These teachers had higher frequencies of dominative than integrative contacts. Among contacts initiated by the teacher, two out of three were dominative, while among teacher contacts that resulted from the child's initiative, six out of seven were integrative. These teachers were meeting aggression with aggression, initiating resistance and not systematically cutting the vicious circle. These studies demonstrate the result of teachers' not being able to implement well-documented knowledge about effective techniques to use with children. (44)

The Effect of Teachers' Active Guidance

The effect of the amounts and types of active guidance teachers give children in the nursery school was the subject of a unique study by Thompson. (226) Two groups of children, who were carefully matched on various personality traits as well as intelligence, age, and socioeconomic position of parents, experienced an eight-month nursery school program under the guidance of the same head and assistant teachers, but each was planned with quite a different group atmosphere. In curriculum B the teacher was instructed to develop a particularly warm friendship with each child. In curriculum A such a cultivation of friendship with the children was not to be emphasized. In curriculum B the teacher stimulated the children's activities by her skillful arrangement of the play materials and by helping children develop their self-initiated activities by giving them information when she thought such information and help would be to their advantage. In curriculum A teacher participation in the children's play experiences was dependent on the children's requests for help and information. The results showed that group B, the highly guided group, was more constructive when faced with possible failure and more ascendant. Group B, also,showed more participation and leadership, and significantly less destructive behavior. (44)

Teachers as Models

The research reviewed by Burgess also contains some findings that give importance to the teacher's own behavior as a model. Direct interference in aggression and fighting may cause the fighting to decline for a time only to recur when interference is less strong. Presence of a permissive adult seems to increase the freedom with which agression is shown if children permit themselves the luxury of the expression of aggression when they feel it will not be disapproved. Seeing an adult behave aggressively makes the child more likely to imitate him, particularly if the adult is a male. Having a model is a more effective way of helping children at a task involving a cognitive function than is simple opportunity for practice.

Teacher-Pupil Ratio

A perennial complaint of kindergarten teachers has been about the large classes they are expected to teach. Yet, despite their best efforts, many communities have not been able to maintain an adequate teacher-pupil ratio in all programs for young children. Head Start set a minimum teacher-pupil ratio of one to 15, with the assistance of two additional adults as a minimum standard. As a result, many teachers had the opportunity to learn what it meant to give individual attention to children. Many of these teachers also found themselves performing in a different role because they were no longer the only adults in the classroom.

Data From Head Start

Head Start research reveals some quite significant information about the characteristics of teachers. When teachers who focused on the general characteristics and developmental needs of young children and perceived the goal of the Head Start program as aiding children in the area of social facility were compared with teachers who focused on the nature of disadvantaged children and perceived the goals of Head Start as being more tailored toward school demands, no difference was found in the readiness for kindergarten of the children they taught. In general, previous experience with preschool and/or disadvantaged children increased the teacher's ability to predict the children's achievement. However, Holmes and Holmes (118) found that teacher bias could influence incorrectly the teacher's evaluation and prediction of intelligence and achievement of Head Start children. (98)

Differences in Teachers

Teachers seem to differ markedly in their ability to perceive and respond to the abilities of children. Van Egmond (240) in one study found that teachers did recognize that culturally and economically deprived children presented unique learning and social needs. However, none of the teachers seemed able to plan and carry out general or differentiated program activities designed to meet particular learning or social needs. Another study by Pierce-Jones determined that Head Start experience did alter teacher perceptions of children. Former Head Start teachers nominated Head Start children more often as good learners than did first grade teachers without Head Start experience. (98)

Consistent Findings

Studies have rather consistently pointed out the importance of having warm, reasonably secure, active, permissive teachers who are varied in their activities. Leon Eisenberg isolated several additional characteristics that may have significance in the selection of teachers to work with young children. In his research, teachers high on encouragement produced less I.Q. growth in their pupils than did teachers who gave moderate amounts of encouragement. Teachers who placed moderate value on self-confidence and self-concept improvement in children produced significantly more growth in their students than did teachers who placed high degrees of emphasis on this value. Teachers who highly valued intellectual activity produced significantly more growth in the I.Q.'s of their children. Teachers who placed high value on property rights and care of materials produced significantly less I.Q. growth than teachers who were medium or low on this value. (98:27-28)

Similarity between the teacher-child relationship and the therapist-patient relationship was explored by Truax and Tatum. (230) It was hypothesized that the preschool child who received a relatively high level of the therapeutic conditions that are associated with constructive personality change in the psychotherapeutic process would show a greater change from initial to later preschool socialization adjustment than preschool children receiving relatively low amounts of these conditions from their teachers. It was also hypothesized that frequency of the teacher-child interaction would be positively associated with constructive personality change in the preschool child. The study included twenty preschool children, with an average of three years and nine months, attending the Preschool Laboratories of the Iowa Child Welfare Research Station from September through April. The majority were from higher socioeconomic strata, showing a skewed distribution. with a few subjects from lower socioeconomic backgrounds. The data supported the hypothesis that the more frequent the teacher-child interaction, the greater the tendency for better adjustment in the child. Data also indicated that the greater the degree to which the teacher offers unconditional warmth toward the preschool child, the greater the child's movement toward better adjustment to the school setting, to the teacher, and to peers. The data offered no support for the hypothesis that the more genuine or congruent the teacher was, the greater was the tendency for the child to show more positive adjustment.

The researchers concluded that the importance of unconditional warmth and empathic understanding in facilitating constructive personality change in human encounter seems clear, regardless of the age of the human beings involved, regardless of the reason for the encounter, and regardless of the setting in which the encounter takes place.

The Influence of Teachers' Beliefs

Studies of teachers' belief systems indicated that the teacher's cognitive style can affect his teaching method and the classroom atmosphere created by that teaching method. In Harvey's study (102), a teachers' belief system was characterized as either concrete or abstract; a concrete system was represented by a tendency for the teacher's instructional approach to be more structured, more variant, and less flexible than the teacher manifesting an abstract system.

Teachers were given the "This I Believe" test and the Conceptual Systems test to indicate the belief system into which they would be placed. They were then observed with their classes of preschool children. The results substantially supported the hypothesis that concreteness-oriented teachers would score lower on desirable traits and higher on undesirable traits and that abstractness-oriented teachers would score higher on desirable traits and lower on undesirable traits.

A study by Lamb (146) using a similar classification of teacher cognitive style found that generally students of abstract and complex teachers gained in self-esteem, identified more closely with their mothers, developed a more balanced power perception of teacher and police figures, and perceived themselves as similar to others. The converse held for these students of concrete and less complex teachers. Teachers having an abstract belief system were found by Prather to express greater warmth toward children, to show greater perceptiveness of the children's wishes and needs and more flexibility in meeting the needs and interests of the children, to be more encouraging of individual responsibility, to give greater encouragement to free expression of feeling, to encourage creativity, to display greater ingenuity in improving teaching and play material, to invoke unexplained rules less frequently, to be less rule-oriented, to be less determining of classroom and playground procedure, to manifest less need for structure, to be less punitive, and to be less anxious about being observed than teachers identified as having a concrete belief system. (98)

A cluster analysis of these dimensions yielded three behavioral factors: resourcefulness, dictatorialness, and punitiveness. Abstract teachers were more resourceful, less dictatorial, and less punitive than concrete teachers. Ratings and observations of the students of each teacher provided the following results. Students of more abstract teachers were significantly more involved in classroom activities, more active, higher in achievement, and less concrete in their responses. The resourcefulness of the teacher correlated significantly positively with student cooperation, involvement, and activity, and significantly negatively with the concreteness of students' responses. The teacher's dictatorialness and punitiveness each correlated significantly negatively with student cooperation, involvement, activity, achievement, and helpfulness. One rather pertinent observation is that only about eight percent of teachers are abstract and resourceful according to test results, and these are the teachers who have the best results from children. (98)

Different Programs Require Different Skills

The development of divergent early childhood programs requires quite different skills on the part of some teachers and calls attention to the ability of the teacher to translate the theoretical concept of the program into practice. Research by Katz (137) raises a question as to whether teachers can, in reality, do this. Teachers in the experiment who were supposed to implement social learning theory were able to attend to some but not all of the behaviors. According to this theory teachers were to express approval, warmth, and praise when their children exhibited the behaviors they wished to strengthen. The teachers were to structure and direct the classroom activities in such a way that children would exhibit the behaviors to be strengthened. But when teachers attended only to the structuring and directing part of their role and neglected the praise and supportive aspects of the role, the effect on the children was to increase those child behaviors that interfered with their learning and threatened later school adjustment.

Experiments also demonstrate that teacher behavior is modifiable. In an experiment in conjunction with the Tucson Early Education Model, Zimmerman and Bergan (256) investigated teacher behaviors designed to elicit intellectual operations in children by focusing on teacher question-asking behaviors. The hypothesis that teachers would tend to ask significantly more questions in the cognitive category than in other intellectual operations categories was confirmed. Teachers placed an inordinate amount of emphasis on factual questions, thereby precluding the teaching of other intellectual operations. The experimental program significantly altered the question-asking behavior of teachers by reducing the incidence of cognition and memory questions and by increasing the use of perception questions.

Continued Study of Teacher Behavior Is Needed

Elliott (74:11) has pointed out that "it is extremely important that we set about systematically describing precisely what it is that takes place between teachers and students in different types of early childhood programs--especially those activities that deal with the cognitive domain, which is so central to working with all others." He emphasizes the need to know the ways in which teachers structure classroom experience and especially the kinds of responses that they solicit from students. We need to look for patterns and sequences, for order and duration in response to various kinds of children and different dimensions of learning and development.

> Finally we need to continue to try to build these descriptive patterns into hypothetical and theoretical formulations within which they may be connected in if-then relationships with changes in students. Even though a goodly proportion of teaching may turn out to be within the realm of art rather than science, theoretical framework, or metaphorical models are vital to our understanding of instruction and to the fruitfulness of educational research. (74:11)

Evidence that a relationship can be established between teacher behavior and child behavior in the classroom seems to be accumulating. Both the kind of person the teacher is and the conditions he creates in the classroom seem to make a difference in the behavior of the children. Integrative teacher behavior tends to encourage integrative behavior in the children. Teachers have difficulty focusing on the nature of children and planning a program accordingly. There is some evidence to suggest that the effective teacher is active rather than passive in his guidance of children, that he is abstract in his cognitive style, and that he should be warm and accepting in his relationships with the children.

ACHIEVEMENT MOTIVATION

Concern with the educational attainment of the disadvantaged child has prompted investigations into the factors that are related to achievement motivation. But we also know that every child, and every adult, for that matter, within the range of normality is capable of becoming something more personally self-estimable and something more socially valuable than he is at any moment that one finds him. (232:136)

Our concern here is with how a child acquires the motives that help him to use his capabilities and with some of the factors that influence the acquisition of these motives.

What Goals Motivate Children's Learning?

Kagan (134:34) has suggested that there are three broad classes of goals that motivate the child's learning of academic skills. The first class of goals is a desire for the nurturance, praise, and recognition by significant others, including parents and teachers. These goals are extrinsic and operate with different strength during different developmental eras, being primary during the preschool and early school years and, hopefully, waning as adolescence approaches.

> A second class of motives begins its growth at age 4-5 and involves the child's desire to increase his perceived similarity to a model who is (1) seen as commanding desirable resources (such as power, competence, affection) and (2) in possession of some attributes that are shared by the child. Under these conditions the child will want to adopt behaviors and learn skills he believes will make him more like the model. If the model is skilled at academic tasks and acts as if he valued such mastery, the child will be highly motivated to increase his academic talents. This motivational process is intrinsic, because the events that reinforce or maintain the mastery behavior are cognitive evaluations of a decreased discrepancy between the child's attitudes and those of the models. (134:34)

A third class of motives involves the desire for competence and self-worth. This is an intrinsic motive based on the assumption that all individuals strive to attain attributes and skills that they and others will interpret as signs of competence.

The Influence of Parents

For young children the identification motive is very important in the development of motivational conditions for mastery of intellective skills. If the child's parents possess intellective skills and communicate to the child that they value them, the child will be strongly motivated to acquire these skills to feel more similar to his parents. Many differences in school performance can probably be accounted for in terms of the degree to which a child has adopted as an identification model a parent or parent surrogate who exemplifies mastery. If the child has not been exposed to models who practice and value academic tasks, he enters school not only with a minimal desire to learn but also with a set of competing motives. Such a child must be made more receptive to learning by increasing his motivation to master. (134)

Great importance is given to the role of the parents by a number of investigators. Differences in motivation are associated with the way the child learns to perceive the environment and its rewards for achievement. For example, lower class children have been found to perform more effectively for a material incentive, whereas a non-material incentive is just as effective as a material one for middle class children. (85:78) Betty Willmon (251) has reviewed research that points out that educational motivation is greatly influenced by expectancies within the home, by the influence of social interaction, by a satisfying relationship between parent and child, and by self-concept.

When Should Motivational Attempts Begin?

The evidence that we have does not point to an optimal age for beginning attempts to motivate the child toward achievement, but suggests that the preschool years are crucial in the development of motivation. (101:275) Hunt (124) suggests that the principle first advocated by Piaget is appropriate: "the more an infant has seen and heard the more he wants to see and hear." Once an infant is ready to grasp things and formulate them, it is important for him to have access to things that he can grasp. Once it is clear what objects are of interest, it is important to provide an ample variety of them and an opportunity for him to choose spontaneously the ones that intrigue him at a given time. (124:263-264)

Children must have the opportunity to associate feelings of satisfaction produced by simple changes in the environment with their own efforts. They need to exert themselves in an independent and effortful way and to observe satisfying environmental changes as a consequence of their actions. Children must also be informed as to what worthwhile effort is. The child must be helped to discriminate between a good try and a poor try, to differentiate between a good product and a poor product. Further, he must understand that the important people in his environment hope he will produce effective tries. (101:277)

The Importance of Success

The ratio of success and failure that the child experiences should be so weighted with success that he is conditioned to expect further and greater success. Support for this position comes from a study by

Rosenberg (192) that revealed that persons with low self-esteem are as desirous of success as are others but they are far less likely to expect that success will actually occur. "These persons do not believe they have the capacities that make for successful achievement and social acceptance, and they anticipate that their goals will remain unfulfilled, their ambitions frustrated." (61:148)

A child gains little by persisting at a task for which his responses are inappropriate, his ability inadequate, or his information insufficient. A child will try if at first he didn't succeed, only if it is clear to him that by continuing to try he will eventually be able to master the problem. (220:22) This suggests the importance of, first, an analysis of the problem situations found in the school situation and, second, an analysis of the resources including cultural predisposition based on parental values for the child's sex and racial class, his mental ability, past experiences at similar problems, cognitive styles, social skills, physical development, and a moderately well formulated set of motives that impel him toward work on problems. (205:27)

Maintaining Persistence

A major task is to maintain persistence as the child moves from tasks he spontaneously selects to those imposed on him by a teacher. The problems that the child selects are usually ones he knows he can solve or is interested in learning how to solve. Intense persistence is common even in quite young children. "The baby attempting to remove his father's glasses, the six-year-old setting forth once more on the bicycle from which he has just fallen--this is the kind of persistence we should like to develop in classrooms." (220:22) Many factors may interfere with persistence. Some children are too anxious, too dependent, or too inhibited to give full attention to a task.

Persistence, like other forms of behavior, appears to depend upon the consequences it produces. Rowbury (193) reported a study in which the activities of a preschool child were modified according to the time spent in the activity and the product of the activity. She concluded that two conditions were effective in establishing high level performances in preschool activities. These conditions are social reinforcement alone and social reinforcement plus a favored activity. Cooper (60) also reports a study of block building in which training and teacher attention were reported to produce changes in behavior.

Types of Reinforcers

Different types of reinforcers have been used in laboratory studies. In a study using candy as a tangible reinforcer and a signal light as a symbolic reinforcer, it was found that there were no significant differences in the learning of middle class children as a function of the type of reinforcer. Tangible reinforcement was found to be more effective with lower class children. When social reinforcement was used in a similar experiment, further differences in performance according to the child's socioeconomic class occurred. The lower class child would rather be approved than right, while the opposite is true of the middle class child. Middle class children persisted longer when they were told they were "right" or "correct," while lower class children persisted longer when the experimenter said their performance was "good" or "fine." (220:25)

Renato Espinosa (76) examined an eight-week summer Head Start program to determine if it would significantly change achievement motivation when such behavior was rewarded or reinforced. It was hypothesized that subjects would differ in their achievement motive as measured by the Aronson test at pretest time; that there would be an overall increase in achievement motive between pretest and posttest; and that the children whose teachers were instructed to place special emphasis on reinforcing and praising achievement and related behavior would show a greater gain in the Aronson test scores than the children whose teachers had not been so instructed. Results showed that high and low achievement motive groups were generated. Both Mexican-American and Negro children made gains in achievement motivation as a result of the Head Start program, but the evidence indicated that what changed was the motive to avoid failure. The evidence did not support the hypothesis that children whose teachers had been instructed to place special emphasis on reinforcing and praising achievement would show a greater gain in achievement motivation than those whose teachers had not been so instructed. There was no observable difference in the behavior of the teachers. There was a difference between the increases in scores made by the low achievement motive group and the high achievement motive group. The low achievement group made the greatest increases in scores.

Kuno Beller (26) in a study conducted with lower class Negro children attending nursery, kindergarten, and first grade found that the learning of cognitive tasks is more effective with extrinsic social reward than intrinsic nonsocial reinforcement.

> However, the effectiveness of intrinsic reinforcement on cognitive learning and performance in kindergarten children was found to be greater in those children who attended nursery than in those who entered kindergarten without prior schooling. Since a major goal of independent learning is to minimize the need for extrinsic social reinforcement and maximize the intrinsic nonsocial reinforcement the contribution of nursery experience is noteworthy. (98:12)

Should Rewards Be Used?

The use of rewards to promote achievement motivation has been questioned by McClelland (154:435), who argues that if a child is rewarded by his father for little efforts toward achievement, the specific response of achieving for his father's approval might be strengthened, but that if the child ever found himself in a situation where approval was not forthcoming, we might expect that the response also would diminish rather rapidly. On this basis he distinguishes between a habit of achieving in response to getting a specific reward and an achievement motive that is based on a generalized association between various responses and possible achievement rewards.

It may be well to point out that, historically, motivation has not been considered a problem in early childhood education. Method grew out of careful observations of children's activities. "Method of instruction grew from the abstraction of natural activities of children with various materials and media that supported learning and the organization of a learning system that incorporated these activities." (212:11) Motivation has become a problem as patterns of curriculum have moved toward the "structure of knowledge" and "compensatory education." No doubt some problems are due to the differences in parental expectation and preparation for school, but others may well be due to too much concentration on what is to be learned and not enough concentration on the children who are to do the learning.

To Spodek the question of helping teachers develop motivational devices is not a productive one.

> Young children can learn. Young children want to learn. Young children need little incitement to learn when the modes of learning provided to them are consistent with their own wishes for exploration and their own needs for movement, and when the activities that are designed for them by the teacher are tailored to their needs, their behavior patterns, and their developmental levels. The teacher of young children could benefit more by looking for new and exciting ways of conducting classes and introducing knowledge than by devising cute ways of moving or inciting children to function in dull, inappropriate classroom activities.
> (212:12-13)

New Motivation Measure

A new measure of motivation to achieve in school devised by Adkins and Baillif (1) has been given an initial trial on 200 four- and five-year-old children. This instrument presents in story format 200 items that focus on the behavior of imaginary figures called Gumpgookies. In taking the test the child is asked to respond to one or two Gumpgookies which provide dichotomous options designed to determine the strength of learned responses hypothesized to be the constituents of motivation to achieve. In the development of this technique, the researchers have been able to identify a three-factor structure hypothetically underlying the responses. Factor I is described as the ability to evaluate self as capable of achieving and to seek out situations that offer positive effect for achieving. Factor II is described as knowledge and performance behavior instrumental in achieving as well as possessing complementing personal characteristics. Factor III is defined as the utilization of achievement behavior and ultimate achievement as purposive goals. Procedures for cross-validation are being planned as well as research designed to teach motivation to achieve to preschoolers using this instrument as a measure of evaluation.

It appears that achievement motivation is influenced by many factors, but the child's success and the ultimate feeling of satisfaction that comes when he knows he has been successful at what he was trying to do are very significant ones. The points of view regarding the most effective ways to increase achievement motivation are quite divergent. The motivational process becomes considerably more complex and the factors that must be taken into consideration increase when the task is imposed rather than self-selected.

DEVELOPMENT OF SELF-ESTEEM

> The child's view of himself is not simply a mirror image of the external events which surround him in early life. From the very beginning it includes his own organism as it senses, feels, learns, and assigns meaning to these external stimuli. The child learns who he is from what happens to him, from the language that surrounds him,

> from the opportunities to deal with objects and events in his immediate work, and from his own responses to the welter of stimuli. His self-esteem represents his unique organization of his biological make-up, the evaluations made of him by significant adults, and his own learning from trial and manipulation and feedback from his world. Cognitive development is inseparable from personality development. (94:376)

Most teachers would agree that by the time the child enters his first preschool classroom he has had many experiences that are of profound significance for self-concept development. "Gardner Murphy has indicated that the self-picture is fairly well integrated by the third year of life. Once it has developed, it becomes the evaluator, selector, judger, and organizer of future experience, and the child's behavior may be seen as organized to enhance and maintain his view." (94:377) Life is not over at age three, but the general view toward the world and toward oneself is already present. Possibilities for change are always present, but the longer a behavior persists the more difficult it is to change.

Self-Concept and Achievement

The relationship of self-concept to achievement was a major focus in a study by Swayze. (222) Subjects for the study included two groups of kindergarten children, one group with a previous school experience at age four and one group for which kindergarten was the first school experience. During the school year 1963-64, the children, who were enrolled in the University School kindergarten of Indiana University, were given the Peabody Picture Vocabulary test. In May the children were rated on the Evaluation Scale for Four- and Five-Year-Old Children including sections on self-concept, social development, and intellectual development. In May 1965, at the end of the first primary year, the two teachers who were responsible for the language arts program of the children ranked them numerically from best to poorest, and the Metropolitan Reading Achievement Primary Battery I was administered. The evaluations of children's self-concept, social development, and intellectual development made at the end of kindergarten correlated significantly with the evaluations made a year later at the primary level. The children who rated high in self-concept and high in social and intellectual development tended to rank high in reading achievement. Although children with a two-year school experience tended to be rated higher in self-concept and social development than the children with a one-year experience, these differences were not significantly different when statistically treated.

School Behavior and Later Adjustment

Jack Westman (248) was interested in finding out how nursery school behavior correlated with later adjustment. One hundred thirty middle class children who attended a private nursery school between 1945 and 1950 were followed through their high school careers in public and private schools. The group represented a variety of racial and religious backgrounds and was weighted toward professional and university families. Records kept at nursery level were compared with records at 18 years on academic achievement, relations with authority figures, apparent autoplastic symptoms, relations with peers, participation in extracurricular activities, and problems in family relations. The evidence obtained in this follow-up study contradicts the time-honored notion that children outgrow behavior problems seen in early life and supports the thesis that drastic shifts in manifest behavior tend not to occur during the first 18 years of life. Children who had adjustment problems in nursery school tended to have adjustment problems in later school life, and the problems tended to be of the same order. Low early adjustment rating to nursery school was found to correspond with later use of mental health service and high early adjustment rating to correspond with no use of mental health service later. Relations with peers in nursery school correlated strongly with later relations to authority figures, later autoplastic symptoms, and later relations with peers. Behavioral eccentricity correlated strongly with autoplastic symptoms. Nondeviant family structure correlated strongly with later academic achievement and deviant family structure with later family problems. Looking back from later adjustment to nursery school criteria, later autoplastic symptoms were strongly forecast by three nursery school items: relations with peers, behavioral eccentricity, and pathological family relations. (248:727-728)

What Are the Antecedents of Self-Esteem?

Coopersmith, in 1967 (61) did a most extensive study of the antecedents of self-esteem. While this was not specifically a study of the young child, many of the findings have implications for development of the young child. In building the rationale for this study Coopersmith writes:

> Experimental studies indicate that a person with low self-esteem is less capable of resisting pressures to conform and is less able to perceive threatening stimuli. They further indicate that a person with high self-esteem maintains a fairly constant image of his capabilities and of his distinctness as a person. Studies of creative persons show that they rank quite high in self-esteem. Presumably, belief in one's perceptions and the conviction that one can force or impose order upon a segment of the universe is a basic prerequisite for major creativity. These persons with high self-esteem are also more likely to assume an active role in social groups and to express their views frequently and effectively. Less troubled by fears and ambivalence, less burdened by self-doubt and minor personality disturbances, the person with high self-esteem apparently moves more directly and realistically toward his personal goals. (61:4)

The findings of Coopersmith indicate that self-esteem is significantly associated with early childhood experience, parental characteristics, and parental attitudes and treatment. Early social relationships of children who differ in self-esteem vary in several ways. Children who are high in self-esteem are less likely to have been loners in their childhood and more likely to have been close to their siblings. They also have good social relationships with nonfamiliar peers. The results indicate that persons with high self-esteem more frequently have positive and congenial experiences during their childhood years.

Children who are high in self-esteem tend to have mothers who are high in their own self-esteem. Coopersmith found these mothers most stable under the relatively trying situation of a personal interview. The mothers of children with low self-esteem are themselves seen to be low in self-esteem and fairly apt to be emotionally unstable. Permissiveness is negatively related to feelings of personal worth--more mothers with high self-esteem regard discipline as important than do mothers of low self-esteem. In reverse terms, the parents of children with low self-esteem are more than twice as likely to enforce immediate gratification. Children with low self-esteem are likely to have fathers who have been unemployed for extended periods, but there is no relationship between the child's self-esteem and the extent to which the mother was employed during his earlier childhood. The mothers of children with high self-esteem are likely to have worked for long periods and to express more favorable attitudes toward their work. Persons with high self-esteem are expressive, happy, and relatively free of anxiety; persons with low self-esteem are less expressive, less happy, and relatively anxious.

The Relationship of Social Class

There is no clear-cut definite pattern of relationships between social class and positive and negative attitude toward the self. Although persons from the upper and middle classes are more likely to express favorable attitudes than persons in the lower class, the differences are neither as large nor as regular as might be expected. Among persons in the lower class who are most likely to report lower self-esteem, there are almost as many persons who report high self-esteem as low self-esteem. (61)

The importance of the early years for the development of self has been emphasized by a number of other investigators, so that at this point it seems quite clear that "how the child will see himself is influenced by the way he is treated, the opportunities provided for him, how he is evaluated as he copes with these opportunities, and how he perceives these evaluations." (94:378)

If the larger society conceives of the child as not worthwhile and demonstrates this consistently, it is difficult for the child to value himself. Children who during these early years are told that they are not good enough or smart enough tend to devalue themselves, which sets the stage for continued poor performance. For very young children, negative self-views may be as damaging as physical illness or actual physical handicap. "What is needed is education so designed that parents can provide children not only with an affective climate which tells them they are loved and worthy but also with a cognitive climate that allows the child to be competent as well as to feel loved. Adequate self-esteem requires this combination." (94:378)

Successful attempts at building self-esteem appear in the child's ever increasing awareness of his own autonomy. He begins to show more self-direction in his behavior. He has a clearer notion of his goals and how he wants to achieve them. If he cannot succeed in reaching his goals, he easily modifies them, or the method by which he intended to reach them. Social living requires that a person learn to be a partner if he is to get along in this world. Although it is possible to achieve some goals on one's own in this modern world it is not possible to be an isolate. Hawkes has expressed the desirable outcome of an early childhood program this way:

> A successful preschool program teaches, 'I like me because I am worthy of being liked and I can do things. I like teachers because they like me and they help me. I find pleasure in relationships with other children because I can trust them and I am safe with them.' Every child who develops a positive self-

> image of himself and who learns to function in social situations represents a valuable addition to the total educational scheme. This is one very important contribution of preschool education. (104:336)

Evidence that supports the need for some direct attention to the development of self-esteem so that early childhood programs may have the greatest possible value is beginning to accumulate.

INTERPERSONAL SKILLS

Douglas Heath in addressing the 1969 conference of the National Association for the Education of Young Children made the following statement:

> We are developing a very self-conscious intellectualized but inhibited generation that values keeping its cool in order to maintain its self-control so as not to give the appearance of being emotional, sentimental, nostalgic, weak, tender, affectionate, dependent, enthusiastic, even committed. To be spontaneous is to risk becoming 'vulnerable.' To blow one's cool is to lose status among one's peers. Many of this generation have been called serious, humorless, grim. (106:75)

The Inner Emptiness of Teen-agers

This conclusion comes as a result of the analysis of a unique collection of data secured on two decades of 17-year-olds. Many of these youths report an increased separation between their reflective intellectual and emotional lives resulting in an inner emptiness. A second trend becoming more prominent in the lives of adolescents is a feeling of being distanced from people. Heath's data suggest that increasing numbers of seventeen-year-olds report having fewer affectional ties with others and do not feel they belong to any group, certainly not to their schools and increasingly not to their own country. The consequence of this estrangement from others is a pervasive feeling of loneliness.

> The real generation gap is not between the young and old; it is between one young person and another. When you have a close satisfying relationship with a person of your age, you aren't that concerned about communication with persons two decades older than you are. (106:76)

What Can Be Done?

Heath has hypothesized that much of the personal and social estrangement is due to a shift in the effective control of the developmental process from the family, neighborhood, community, and church to the peer culture, mass media, and the school. "Psychologically, this shift is from thousands of hours of caring, intimacy, interpersonal, spontaneous, cooperative, action oriented learning to thousands of hours of passive, observing, conforming, inhibiting and cognitive learning." (106:78)

One reaction to Heath's views might be that schools are bad for young children, that they should be cared for by families. But that does not seem to be what he meant. His is a plea that we look at the quality of the lives of our students after they have left our schools in judging the effectiveness of our methods. It is a plea that schools should help youngsters learn in school what they are now trying to get with drugs--"to learn what it means to feel intensely, to feel alive again, to discover that life can be beautiful!" This is quite different from learning how better to adjust our children to society as it exists. It is a matter of learning those affective, social, and intellectual attitudes and skills that will help them create for themselves that optimal relation between the expectation of society and their own needs and demands. "Should we not be learning how to become healthily maladjusted to this society in order to help them create the society that should be?" (106:83)

The Role of Early Education

Fuller (87) summarized eleven studies that pointed out the relationships of early childhood education to later adjustment to school and six studies of the effects of early childhood education on general social development, though she drew no general conclusions. These studies are extremely difficult to relate to the problem of total adjustment because most of the researchers considered single or multiple personality or behavioral aspects instead of the overall picture. For example, Walsh (241) found that nursery school children were less inhibited, more spontaneous, and more socialized after six months in the program. They also had developed more independence, initiative, self-assertation, self-reliance, curiosity, and interest in the environment, and more habits of health and order. Hattwick (103) found improvements included decreases in fearing strangers, in shrinking from notice, in avoiding play with others, and in staying close to adults, and increases in sociability and in expressive behavior. Joel (132) discovered that with continued attendance at nursery school children showed a significant improvement in routine habits, emotional maturity, and social maturity. Other studies pointed up the importance of the value system of the raters and the relationship between the type of program provided for children and the way in which they responded.

Burgess (44) described Swift's review of studies in which it was reported that investigation of the same child over a period of attendance in the nursery school pointed to a greater degree of social outgoing behavior, more successful use of social techniques, and greater maturity and independence. Studies that compared nursery school attenders with a matched group of nonattenders, Swift concluded, have not resulted in clear-cut findings reflecting superior social adjustment on the part of children who have attended nursery school. Actually by her own summary, ten studies indicated positive social learning, while only two did not.

Head Start Studies

Recent studies have not focused on the direct relationships between social behavior and school attendance. Some of the Head Start studies have been concerned with testing the assumption that children's learning is enhanced when they are happy, relate well to others, and have a positive self-image. The findings are summarized as follows:

> While children vary in competitive and cooperative behaviors, they are able to apply the principle of cooperativeness to new situations when specifically taught the principle and the reasoning behind it. Children who regard peers as friends are able to play more freely and explore new environments with greater interest and curiosity. Racial identification plays some part in self-concept but is not a major basis for selecting friends or classifying family members. The feeling that one's skill determines what one achieves rather than "luck" results in longer retention of learned behavior. Thus, as children develop more autonomy of personality they

> are able to relate better to others and to perform better in activities. Some of the research reported indicates that children are able to learn those things which are important to the development of autonomy.(98:18)

In a Head Start Study conducted by Kidd and Kidd (140) four classroom situations were structured on the pattern of the ideal family. Two personally stable teachers, male and female, who had a relationship of friendship and mutual respect were placed in each classroom as co-workers. Of the 60 kindergarten children who were enrolled in the program, five were seriously disturbed, and five others did not speak. The environment, planned with the help of a psychologist as a consultant, emphasized genuine warmth and friendliness and encouraged verbal communication. Problems of behavior were discussed openly and immediately. The teachers and volunteers discussed their feelings candidly and encouraged the children to express theirs as openly as they could. After five months of such an environment only one child, an autistic child, could still be classified as seriously disturbed. The children's vocabularies showed tremendous increases, social skills were developed, and concepts appropriate to or in advance of the children's chronological ages were apparent.

Current Techniques for Improving Human Relations

Techniques that have been advocated in the last four years come from two quite divergent sources. One point of view is ably expressed by Abraham H. Maslow, Carl Rogers, Earl C. Kelley, and Arthur W. Combs. (21) The individual is perceived as basically cooperative, constructive, forward looking, trustworthy, and responsible. He has the capacity for identification with his fellows, and the feeling of identification seems to produce a deep sensitivity to the feelings of others. Interpersonal relationships are built on the assumption that each person is worthy of respect, that interaction with people is the strongest environmental determinant in the self-concept, and that when the environment is basically unthreatening, the individual's own behavior toward elements in the environment is basically open, self-and-others-trusting, interactive, sympathetic, and constructive. ". . . self-understanding and acceptance are reflections of understanding and acceptance by 'important people' in the environment and lead the individual to accept, to face up to, and to move toward, rather than away from, life." (21:214) He is aware of and accepts his feelings and trusts them as guides for behavior. He is, therefore, free to go adventuring in intellectual realms. Goals are individual; he is not expected to behave exactly the same as anyone else. The individual exercises a high degree of autonomy in determining his own behavior.

One of the most interesting experiments in human relations was the Nursery in Cross-Cultural Education (NICE). (200) This project was located in a San Francisco community subjected to the stresses of redevelopment. Children and their families came from three cultural milieus, a predominantly low-income Negro community, a low-cost public housing community, and a middle-income group representing a wide range of occupations and their affiliations. The children were enrolled essentially as two-year-olds and remained in the project for three successive years. The program of NICE Nursery Schools has been described as individual-oriented in the context of the current controversy. It sought to help each child release his own native ability. There was continuous detailed study of the child, individualizing of his learning in nearly all situations, and acceptance with joy of the child's response to being in school. The children were actively engaged in understanding their world. Their concepts were embedded in realities of sight, taste, and touch as they encountered them as individuals. Learning was a process of exploration and experimentation through which the child could and did reach out toward a structuring of ideas that made sense to him.

The goals of the project included behavioral changes in the families of the children as well as in the children themselves. Specific goals for children included such mental health factors as the development of a basic sense of trust, autonomy, initiative, cognitive development, and social competence. For adults in the enrolled families, representing several racial and ethnic groups, goals included growth in social competence, adaptability, and intergroup acceptance, as well as the families' expanded use of community resources and participation in community activities.

Research data have been collected in three areas: (1) assessment of behavioral changes in the children of factors related to mental health, (2) assessment of behavioral changes in the families of the children related to mental health, and (3) assessment of behavioral changes in the families' utilization of community resources and participation in community activities, particularly as these relate to cross-cultural involvement. Research results are not yet available, but with the expiration of the grant for NICE, parents who had been involved organized the Cross-Cultural Family Center, which continues to operate a nursery school based on the same philosophy and which published a bulletin by staff and parents, A Multi-Cultural Curriculum for Today's Young Children: Outgrowth of a Cross-Cultural Nursery School. Since the program is basically humanistic these results are no less significant than results that may be found from the research data collected.

From quite a different point of view the theory of operant conditioning sees a preschool as essentially a behavior-modifying environment in which the teacher plays an important role in choosing behavior that will be systematically reinforced. The reinforcement principles offer a clear objective guide for precisely discrimating occasions for giving and withholding adult attention or tangible rewards. Some of the kinds of goals that are considered suitable for individual children of preschool age are increasing socially assertive responses, decreasing socially assertive responses, increasing social skills, increasing use of available materials and physical equipment, learning to take responsibility for simple tasks, decreasing some aggressive responses, and decreasing threatening and violent behavior. Baer and Wolf state that "the teacher cannot really choose not to shape the behavior of these children; she can only choose not to care and let the contingencies fall where they may; or to begin the systematic analysis of her profession and thereby the systematic education of preschool children toward specified goals." (22:128)

An example of this approach is an experiment conducted by Reese and Dyson (189) in which an attempt was made to bring about desired changes in the social behavior of a nursery school child. This child had infrequent and unsuccessful interactions with peers, flitting and hyperactive behavior with materials and activities, and a subtle form of controlling adults to her own detriment. It was decided that the best tactic was to modify her responses to adults before attempting to change her other undesirable behaviors. For fifteen days the child's behavior was observed to establish a base line. Then a system of token rewards was instituted. She was given token rewards for each positive response to the teacher for a second fifteen-day period. After reinforcement was discontinued, the child continued to respond at a somewhat steady rate. Final stages included the discontinuance of token reinforcement and social reinforcement of that particular behavior. After the first behavior had been effectively established, the project of peer interaction could be undertaken.

In the final analysis these two approaches to the development of changes in interpersonal relationships arise from very different systems of beliefs. The important question is how one goes about building satisfying interpersonal relationships: whether one chooses to develop the relationships that encourage the child to want to change his behavior and give the guidance and support necessary to do this, or whether steps must be taken to urge him forward in the desired direction; whether the child should be motivated by some real desire to change, or whether he responds to tangible rewards for desired behavior until the behavior becomes somewhat of a habit. There seems to be little doubt that social behavior is modifiable in the classroom. The question relates to how it should be done and the extent to which different approaches are applicable.

THE IMPORTANCE OF LEARNING TO LEARN

The middle class child is read to, is spoken to, and is constantly subjected to a stimulating set of experiences in a very complex environment. He learns to use language to fix aspects of his world in his memory. Parents make deliberate efforts to make the child more observant, to motivate him, and to reinforce desired responses. In short, he "learns to learn" very early.

The question of how a child learns to learn is at the very heart of the controversy over whether children should exercise a certain autonomy in determining their own learning or whether indeed the child must be "made to learn." One point of view represents a high degree of trust in the powers of the individual, while the second represents an effort to program the child's surroundings if not actually to force learning.

Why Do Children Not Learn?

Zigler (254) in exploring this controversy has stated that the only meaningful question is not why children learn, but rather, why some children do not learn? Learning, to Zigler, is an inherent feature of being a human being. Children learn many things at quite young ages and before they go to school. The approach he recommends to the nonlearning child, then, is determining the conditions that interfere with his learning and removing events or attitudes that are interfering. Zigler has stated:

> . . . .the child, in his natural state, is a much more autonomous learner than adherents of the pressure-cooker approach would ever believe. I am convinced that the child does most of his learning on his own, and often the way to maximize it is to simply leave the child alone.

> The child probably accomplishes some of the most significant learning in his everyday interaction with his environment. Learning for the child is thus a continuous process and not one limited to the formal instruction and whiz bang remedial efforts which have recently captured our attention. (254:11)

It is evident that many children have experienced events that interfere with learning, even before entering preschool programs, so for these children the problem is one of changing attitudes and behaviors that have developed even at four or five years of age. Such children may truly have an intellectual deficit, but many have also had experiences that interfere with the removal of this deficit and with social competence. It appears that in spite of a mother's good intentions, her failure to inject sufficient cognitive meaning into her interactions with her child may structure the situation so that he fails to learn and develops a negative attitude toward the experience. By this routine, a mother may induce negative attitudes, not through the child's imitating her or her interjecting her views, but by his reacting adaptively to her well-meant but harmful teaching behavior.

Many of the children who have had experiences that interfere with learning do not come from low socioeconomic levels, although low socioenonomic status adds to the likelihood of such disadvantaged behavior. Many of these children have already had experiences that have alienated them from society. "Their attitudes, motives and emotions are such that they find it difficult to contribute to society and to actualize themselves within its framework." (254:13) It may be quite difficult to unlearn some early affective associations because they were learned under cue conditions that cannot be restated and attached to new responses. As children grow larger it becomes difficult to restate what they perceived when they were small, and if cue patterns cannot be reproduced with a fair degree of accuracy, it will be difficult to unlearn the association involving them. (154:440) We can appreciate the importance of cognition while attending to the aspects of development, which are clearly important in determining the kind of adult the child will come to be.

What Does "Learning to Learn" Involve?

Learning to learn involves helping the child to use the sensory modalities such as vision, hearing, touch, and even smell and taste, to perceive many of the aspects of the world around him and to use increasingly complex processes to organize these perceptions. It involves learning to communicate with others, including the use of increasingly complex patterns of language that help the child to gain control over his environment. Benjamin Bloom has quite concisely expressed his view of what it means to learn:

> Learning to learn should not be confused with the early teaching of the child to read, to spell and even to do simple arithmetic. . . . Learning to learn is a far more basic type of learning than coaching the child on school learning. It includes motivating the child to find pleasure in learning. It involves developing the child's ability to attend to others and to engage in purposive action. It includes training the child to delay the gratifications of his desire and wishes and to work for rewards and goals that are more distant. It includes developing the child's view of adults as sources of information and ideas as well as sources of approval and reward. Through such development, the child changes his self-expectations and his expectations of others. (35:17)

Milton Senn puts it this way:

> When I say I believe in helping children experience joy and happiness in learning, I do not mean protecting them artificially against the crises of life or from all experiences of fear, anxiety and unhappiness. When I say I want children to feel free to ask questions, to explore, to experiment, to be spontaneous, I am not advocating license in a classroom that is unsupervised or led by a teacher who is incompetent or irresponsible. I expect teachers to be informed about appropriate curricular materials but also to know how to incite the deep interest of children through their teaching skill and their relationship with pupils without resorting to pedagogical tricks. I expect educational programs to help children find themselves as individuals, learners, thinkers, doers, persons with feelings, increasing clarity as to their identities, and appropriate roles in life. Such programs can be based on sound experimental studies of learning and teaching and the results evaluated by rigorous methods that go beyond the measurement of changes in I.Q. (207:13)

Many of the experiences that are a part of learning to learn are common experiences that can be easily overlooked in our analysis of the learning history of the child and the adult. In part, this results from the fact that these experiences are so ubiquitous and inevitable. This early general learning involving exposure to a variety of situations, however, is essential in order for more efficient learning to take place at some subsequent point in development. (100:30)

The present knowledge explosion greatly increases the importance of learning to learn. It is obviously impossible to prepare today's children for all the demands they will meet and for all the changes they will experience. We cannot possible impart to children all the facts and skills they will need. The information and skills for doing this simply do not exist. The problem is overwhelming unless we think of it in terms of helping today's children learn the motivations and skills to continue learning the rest of their lives. (228:64)

The task is ultimately more difficult and more challenging than dealing with given specifics. It is clearly focused on the development of intellect--the critical, creative, and contemplative side of mind. (207:12) It involves the process of evaluating and looking for the meaning of situations as a whole and implies comprehension of a much wider range of content than could be directly taught.

A careful analysis should be made of the resources with which children enter school. The nature of these resources is of considerable importance to the teacher, because the child's initial repertory determines the degree to which the teacher can effectively introduce new learning. There is much room for searching for the appropriate learning experiences by which we may assist the child in learning how to learn. At present we only have leads from research. In the classroom, it is the teacher who becomes the researcher to the extent that he must experiment with a variety of possible approaches. He must find ways to help the child proceed on his way to being an intellectually emancipated human being for whom the learning process never ends.

CREATIVITY

During the last five years very little has been written about creativity in programs for young children. Yet it takes little imagination to recognize that the future of our civilization will depend strongly on the quality of creative imagination of our next generation.

Kubie (145:98) has pointed out that how we guide our young children between the ages of three and six when they tend to lose their capacity to use their native imaginations freely and creatively is a crucial matter. Until this time the child manifests a magnificent facility to learn things painlessly and spontaneously. Children learn symbolic speech, bodily mimicry, spontaneous dance, tunes, facial expressions, and presently the uses of color and form just by living out their preconscious identifications with others. At an early age the child is able to take his daily experiences apart and put them together into new combinations with an imaginative use of gestures, sounds, and words much as he plays with his early toys. As the child acquires the capacity to represent his experiences in the formal symbols of speech the capacity to learn preconsciously is seriously endangered. His freedom to be creative is often overwhelmed by the struggle to conform, to be good, and to do right in order to win acceptance. "Thus any pedantic teaching of the three R's tends to lock the jail door which imprisons the child's capacity to learn and create." (145:98)

Differences in Aesthetic Expression of Children

Involvement in aesthetic areas, however, is a different matter. Even though children have different degrees of talent, the results of their work or involvement in the process of expressing themselves need not fall in a preconceived structural form. Margolin (151) worked with kindergarten children to test the hypothesis that, to the degree that teachers encourage and praise differences in children's performance, they will respond in kind, with a larger number and larger degree of differences than will children in a classroom where the teacher praises sameness of products. Two public school kindergarten classes were used as subjects. One served as the experimental group and one as the control. Both groups were comparable in terms of I.Q., age range, and socio-economic background. Graduate students in art, in body movement, in poetry, and in creative dramatics worked with the experimental group one-half hour per day during a semester. Children were made aware that the person guiding them was working toward difference, not sameness. Posttests were devised mainly for the body movement and the art experiences. The posttest for body movement expression indicated that the children in the experimental group used more levels of space in their ideas, used more parts of their body, and varied their pace to greater degrees than the control group. In the area of graphic arts, the experimental children used all the different kinds of media, while the children in the control group went only to large sheets of newsprint, one of the many choices. Margolin concludes that teachers who have competence in these areas and are interested in working with young children can be like conservation specialists who are protecting and keeping intact certain abilities and skills that are somewhat inherent in young pupils.

Do Teachers Value Creativity?

The characteristics that teachers believe should be encouraged and discouraged were found to differ quite sharply from the judgments of a panel of experts on the creative personality, in a study by Davis and Torrance. (64) The ratings of the kindergarten and nursery school teachers correlated .37 with those of the expert panel, compared to correlation coefficients of .66 for art educators, .51 for a broad sample of New York teachers, and .42 for a sample of Minnesota parents.

Torrance (229:2) concludes that these results should have been expected in some respects because nursery school and kindergarten teachers are responsible for the child's first socialization training while outside the home. For survival, it may be necessary for them to place emphasis upon obedience, quietness, courtesy, promptness, and the like, and to discourage adventurousness, independence in judgment, curiosity, and willingness to take risks.

For years, students of creative development have observed that five-year-olds lose much of their curiosity and excitement about learning. Many of those who have commented on this drop in creative thinking ability and creative behavior have assumed it to be a purely developmental phenomenon. Torrance does not accept this kind of thinking because in the administration of his tests in different cultures, he has found that the developmental curve takes on a different shape in each culture and that the characteristics of the developmental curve can be explained in terms of the way the culture treats curiosity and creative needs. It seems to be due to the sharp man-made change that confronts the five-year-old and impels him by its rules and regulations. Torrance feels that many children needlessly sacrifice their creativity, that creative thinking and the production of new ideas can be taught, and that such learning should not be left to chance. (227:98)

Creative-Aesthetic Approach to Readiness

Torrance (229) also described a program called the "Creative-Aesthetic Approach to School Readiness" formulated by Laura Fortson as a program of research of the Research and Development Center in Educational Stimulation at the University of Georgia. The creative-aesthetic approach is aimed primarily at developing in preschool children the beginnings of intellectual skills, abilities, and attitudes that are transferable to later learning situations. Activities were carefully planned to elicit from children maximum amounts of creative thinking, problem solving, fluency of ideas, and fluency in verbal expression, and to develop auditory and visual discrimination. Children were encouraged to offer ideas freely, to hazard guesses, to test their ideas, and to try to predict possible outcomes. The experimental group of twenty-four kindergarten children was compared to a control group on the Torrance Tests of Creative Thinking, The Mother Goose Problems Test, and the Starkweather Test of Originality. Results indicated significant gains for the experimental group on all three of the verbal measures, figural originality, and total figure creativity. They were also superior to the control group on all the verbal creativity measures and on all the originality measures.

Measuring Problem-Solving Tendencies

The Cincinnati Autonomy Test Battery has been designed to measure the appearance in early childhood of tendencies and behavior that facilitate effective problem solving. This test deals with measures of curiosity, motivation, persistence, control of impulse, exploratory behavior, reflectivity, analytic perceptual processes, and innovative behavior. It was administered individually to 200 children from different kinds of prekindergarten classrooms and from different social class levels--lower class without prekindergarten experience, lower class with prekindergarten experience, and upper middle and upper class children who attended prekindergarten. In general, the findings showed that problem-solving behaviors are more developed in the culturally advantaged group and most poorly developed among the nonprekindergarten lower class group. Four provisional generalizations from the early research are: (1) Innovative behavior is lacking among the lower class children; it can be modified through prekindergarten experience, but the upper class has a considerable head start. (2) Analytical thinking can be developed in prekindergarten classrooms, but again the upper class child has the advantage. (3) Learning processes are greatly improved through prekindergarten experience, and under certain conditions lower class children do better than upper class children. (4) The upper class child makes more use of the presence of adults in his problem solving; the lower class child misses this opportunity to take advantage of adult instruction. (23)

Releasing Creative Powers

According to Starkweather (214:7) the value that may be derived from an increased understanding of creative ability in the preschool years depends on whether our role in training children is seen as that of teaching by authority or setting the stage for creative learning. While she is willing to admit that we must do both (some things must be learned by authority), in those situations in which a child must learn creatively it is necessary to free him for that learning. As our understanding of creative ability increases, she feels, we should be able to provide our children with the knowledge and experience necessary for creative expression and at the same time grant each child the freedom to move in a manner of his own choosing toward the different goals that will emerge as he crystallizes his philosophy of life.

Certain intellectual factors are considered to contribute directly to creative power: thinking in which a variety of responses are produced, and in which the thinker allows himself to go off in different directions; transformations such as change of arrangement, organization, or meaning. These and a long list of other manifestations--the tendency to toy with ideas, the capacity to be puzzled and to sense ambiguities--have traditionally been neglected in education. (31) The challenge is to consider which sequence of learning activities will help the child relate his fantasies to reality, correct his unruly imagination, distinguish between reality and dream, and ultimately represent his internal experiences by externalizing them in drawings, words, and numbers as he learns how to read, write, and count. (45) One might easily be led to the conclusion that children in our culture develop their creative abilities in spite of rather than because of the educational experiences that are provided. Yet, there is the suggestion that we could cultivate creativity if it really were valued as an outcome of education.

LANGUAGE AND COMMUNICATION ABILITIES

In 1965 the task Force of the National Council of Teachers of English recommended that "the development of skill in language and concept formation be the overriding concern of preschools for disadvantaged children and that emphasis on all other objectives be reduced accordingly." (166:65) Projects described under intervention programs indicate that indeed this is what has happened. Programs almost without exception state language objectives. This, however, is where the similarity ends. The programs range from those in which the emphasis is on encouraging children to express themselves to those in which children are "bombarded" with the language.

Principles of Language Teaching

Lavatelli (148) in a critical overview of early childhood education programs has identified two principles of language teaching: (1) the child should hear directed at him a wide variety of wellformed utterances to which he must make a response; (2) language intervention programs should build into teachers' heads a model of how sentences are put together.

Implementation of the first principle involves helping a child to decode the meaning in a teacher's explanation or question and to compare compositions of his own. The decoding of meaning comes before constructing one's own response. Before constructing his own response, the child must first hear good samples of language. Lavatelli suggests that programs for the disadvantaged ought to have some time during the day when the child can be part of a small group physically separated from the rest of the class under the tutelage of a teacher who will see that during that period children have a chance to listen, to respond, and to be responded to. "The learner must be active." (148:13)

University of Arizona Project

The program for disadvantaged Mexican-American children developed by Dr. Marie Hughes at the University of Arizona is one in which teacher awareness of language structure is important. The program, largely planned for primary grades but including a kindergarten, is one in which children engage in a number of activities--field trips, construction, cooking, art--which stimulate a great deal of conversation. The children's remarks are recorded verbatim with no attempt to change what they have said to standard English in individual books, on wall murals, or underneath pictures they have drawn. Modeling of language is an important aspect of this program. Teachers use complex sentences as they become appropriate to "lift" the language of the children in variety and complexity of structure; but lessons are also planned that help children to understand the positions of words in language learning. The program differs considerably from a traditional primary program in that the four principal goals--language, intellectual base, motivational base, and societal arts and skills--are embodied in most activities in what is called orchestration. (122:5)

One observes that the children in this program are highly involved almost continually in what they are doing. They are little interrupted by the many visitors that come and go in rapid succession, although they may ask help of a visitor if it is needed. The teacher or her aides are seldom called upon for disciplinary action. These children learn to speak English fluently although many enter school knowing little English. Yet, this all goes on in a school where prior to initiation of the program there were many learning and discipline problems.

The Bereiter Approach

Quite different is a program by Bereiter used in the academic preschool described earlier. In this program the child is drilled in the language that he is expected to learn. The drills are used to teach new language operations rather than to replace old patterns. This, Bereiter believes, avoids the conflicts that arise when children have already learned to express the same thoughts in nonstandard ways. (28:201)

While Bereiter has reported significant gains on the basis of his program, two other investigations have not attributed significant differences to it. Rusk (196) compared eight Head Start classes in a Bereiter-Englemann structured program with eight classes in relatively unstructured programs on the Caldwell Preschool Inventory and the Englemann Concept Inventory and found the children made gains that were not sufficient to be significant. Adkins and Reid (2) modified the program by moving through it more slowly and requiring less disciplined behavior. Their children were compared with children in a verbal enrichment program. There were no significant differences. (98:8)

Grotberg, after reviewing the Head Start studies on language, concluded:

> The studies on language of disadvantaged children suggest that their language development is generally below that of middle class children. Environmental factors seem to account for a large portion of the difference; however, ethnicity may account for variation among subpopulations. One study found higher verbal performance among inner-city preschool boys than girls. Foreign language speaking parents and bilingual children do not appear to be handicapped in terms of intelligibility and articulatory status of their language performance. Further, the language behavior of the parents is a more reliable predictor of children's language behavior than socioeconomic factors. . . . Experiments in language

> programs suggest that children benefit from many kinds of language interventions, but that a more structured program is generally more effective than an unstructured one; when significant gains are found, they tend to be found as a result of a more structured curriculum. (98:8-9)

An early study by Bereiter (28) and a study by Clasen (54) tended to corroborate the last statement. Bereiter compared a direct verbal instruction program of seven months' duration with a Montessori program. The direct instruction group did better on the Visual Decoding subtest of the Illinois Test of Psycholinguistic Abilities. However, there was no general interactive tendency. The only discernible pattern difference seemed to be that the direct instruction group did relatively better on tests involving abstraction, while the Montessori group did relatively better on simple recognition and memory. The direct instruction group surpassed the Montessori group in all areas of the Wide Range Achievement Tests.

Other Programs of Intensive Language Training

Clasen found that a short-term program can result in a significant improvement in the linguistic skills of children from low-income families and that intensive language training will result in better linguistic performance than a more general program. He found an unexpectedly significant gain in psycholinguistic skills as measured by the Illinois Test of Psycholinguistic Abilities without a significant gain in measured intelligence, which he interpreted to mean that the product of the preschool is a function of that preschool's philosophy. In other words, children will, to a certain extent, become what they are trained to become. The children who were given the intensive training continued to exhibit superior skills in linguistic exercises after a year of no special additional training, when compared with students who had been given a more typical preschool experience that emphasized socialization. Clasen thought the results would imply that the conventional training programs produced marked results but that focused programming produced results superior to conventional programming in those skills that were the focus of the program.

Dickie (70) conducted an experiment in which Negro children enrolled in the Henry Horner Preschool Center were the subjects. Matched groups were assigned to different methods of language training. There were two structured groups, one using Bereiter-Englemann and one Gotkin's Programmed Language Training materials, and two unstructured groups. All language training was in twenty-minute periods. No systematic language training was conducted during the remainder of the session. The Expressive Vocabulary Inventory, the Children's Auditory Discrimination Inventory, and the Auditory-Vocal Association subtest of the I.T.P.A. were given as pretests and posttests. None of the group differences on the posttest scores was significant. Both treatment groups made significant gains on the tests during the training period. There was a slightly significant tendency for the children judged initially low in language functioning to gain more in the group receiving structured training than in the group receiving unstructured training. A reverse tendency, nonsignificant, was present in children judged high in language functioning before training. These children tended to gain more in the unstructured method. Very significant differences were obtained between the preschool groups and the controls, indicating that some aspects of the preschool programs were the effective agent.

Vance (237) conducted a study in which language skills scores and social competency scores of three- and four-year-old disadvantaged children attending a preschool program for seven months were compared with the scores of a comparable group who remained in the home environment. Language goals were the ability to recognize and name objects, actions, and people, the ability to recognize and name various sounds in the environment, the ability to relate and classify words and ideas, and the ability to express ideas in gesture and word. Social competency goals included the development of self skills, self-direction in socially desirable behavior, appropriate interpersonal relationships with other children, and the ability to communicate verbally with other children and adults. The preschool program was not effective in increasing the social competency and language skills as measured by the Illinois Test of Psycholinguistic Abilities, Peabody Picture Vocabulary Test, the Vance Language Skills Test, and the Cain-Levine Social Competency Scale.

Elliott's (75) concern for the problems of shy and unintelligible children led to an eight-year study of a group of twenty-five seventh graders for whom data was obtained in kindergarten, fourth grade, and seventh grade. In kindergarten the experimental group was found to have many speech problems, including voice, fluency, and rate disturbances. The experimental subjects made a significant number of errors on sounds expected to be used correctly by children of their ages, and compared to their controls they lagged far behind in articulation development. The findings confirmed two hypotheses: first, that shyness and unintelligibility combined are chronic difficulties, identifiable as early as kindergarten and continuing through middle grades and junior high years; second, that early communication problems are early signs of a syndrome consisting of linguistic, achievement, ability, and social difficulties. The study suggested that these children must be identified early and special curriculum and remedial programs be planned for them. The regular curriculums, class arrangements, teaching techniques, and use of pupil personnel services staff were not effective in preventing the general decline of these pupils.

Pendergast (182) studied the speech errors of first grade children to determine the relationship of speech errors in first grade to kindergarten experience. The findings indicate that the incidence of articulation errors among children in first grade is much the same for children who have had kindergarten experience as for those who have not had such experience. However, kindergarten experience was a significant factor in the reduction of sound errors when the first grade children had not received special help in speech class. Therefore, if none of the children had been enrolled in speech therapy, kindergarten experience might have been a significant factor for the kindergarten and nonkindergarten groups as it was for the nontherapy groups.

At this point the reader is referred to the intervention studies described earlier in this publication. The improvement of language abilities is an important aspect of the curriculum of almost all intervention studies. Because of the close relationship between language and intellectual abilities, the tests that measure language are often not distinguished from the tests that measure intellectual abilities. Thus the language changes have not been pointed up as sharply as one might expect. This section, therefore, does not really do justice to the importance that has been given to language abilities in early childhood programs.

PACING

Pacing is the author's term used to cover a number of significant issues that seem to be a part of the controversy on values in early childhood education. The whole question of who sets the pace for early childhood programs is relatively unexplored, yet programs represent vast differences on this point. Closely related to this is the importance given to critical periods and the whole matter of pressure. Some of the basic questions are how much opportunity for choice a child should have in his learning, what are the critical periods for various kinds of learning, and what are the essential differences between stimulation and pressure.

Selecting Curriculum Experiences

We have generally accepted as a principle for curriculum development that the experiences presented should be appropriate both to the child's developmental level and to his background and experience. Some curriculum developers have added that the simple provision of a particular experience is not enough, that the experience must be structured, labeled, and the aspects relevant to the knowledge it is to convey or the function it is to stimulate pointed up. Not only must the structure and emphasis be pointed up; it also must be meaningful in terms of previous experience and understanding. (66:384)

A point of view widely held by early childhood education curriculum designers has been that learning can be accomplished through many approaches and, therefore, one of the ways a program could accommodate the wide variety of differences in children was to provide a selection of appropriate learning opportunities, thus providing the child with opportunity for choice. The idea that the teaching of cognitive activities is inherently harmful has also been thought by many to be widely held by early childhood educators. This is hardly true, although emphasis in the programs on socialization and affective development may have contributed to this conclusion. Such an idea probably arose from an early opposition to emphasis on "teaching" as opposed to "learning" and from observation of what happens when children are taught in groups with all being taught the same thing at the same time, rather than individually. The problem with which we are concerned is the one that Hunt has frequently referred to as the problem of the match. The danger of attempting to prescribe materials and models is that the prescriptions may well fail to provide a proper match with what the child already has in his storage. This problem is especially difficult with disadvantaged children.

Self-Pacing and Autotelic Activities

Meier, Nimnicht, and McAfee (155:365) based the design of the New Nursery School on the assumption that the only way a teacher researcher can be certain that the child is not being pressed beyond his ability is to insist upon adherence to the notion of self-pacing and autotelic activities. They feel that a teacher, because of his eagerness to obtain results, often has a tendency to start teaching instead of responding and offering assistance to encourage children to try something they want to master. When the teacher "teaches" he runs the risk of pushing the child beyond his ability or development and, as a consequence, of building psychological blocks to future learning and perhaps creating even more serious mental health problems. With this caution they concluded that early cognitive training is not only permissible but is extremely important for environmentally deprived children.

Other Points of View

Bereiter used the exact opposite approach in the creation of his academic preschool which has previously been described. His approach is that children who have fallen behind in the experiences that they have had to prepare them for school cannot be allowed to stay behind. The skills he believes they need are drilled systematically and directly with little or no allowance for differences in learning pace.

Many of the designers of innovative programs have looked to the experiments of Piaget for support for the kind of experiences that have been included. What is most interesting is that some of the programs that have looked to Piaget for support are quite different in their approach. Almy (7), who has made a rather thorough study of some of Piaget's theories, has indicated that his work clearly implies an ordering among conceptual tasks that suggests certain priorities for instruction. For example, an experience in classifying and ordering objects on the basis of a single attribute would precede problems involving the manipulation of two attributes or a relationship between two attributes. However, she does not feel that the fact that there is an order in which the child comes to grasp these concepts means that his educational experiences are to be limited to those that are within his immediate understanding. "One does not have to wait for evidence that new information has been effectively assimilated before providing opportunity for accommodation to additional information. But neither should the new come so fast as to preclude integration of the old." (7:137)

The traditional nature of the early childhood period, and the fact that it is from Piaget's point of view a time when the child is constructing a systematic way of thinking, raises many questions about both the time and the way in which the child responds to the order and the structure that come from the adult.

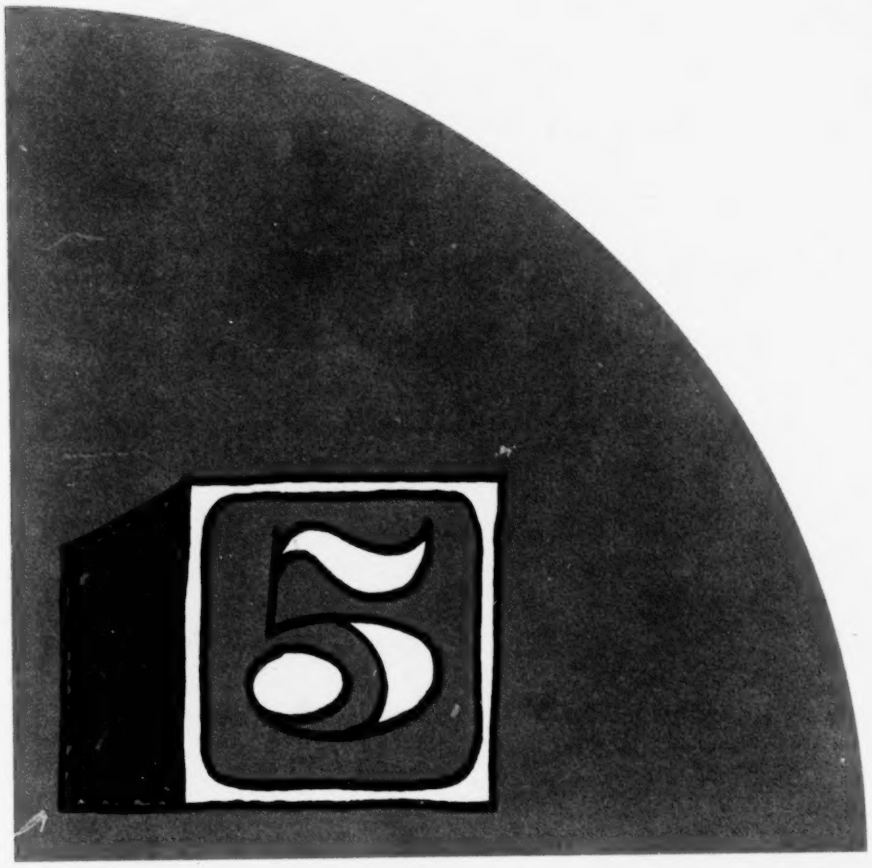
> Whether it is variety in experience, or the ordering of experience, or some subtle interaction of the two aspects, that propels the child to operational thought, is not clear. The needed proportions may differ for children of differing backgrounds. In any event, Piaget's theory seems to caution those concerned with curriculum construction to give due attention to the scope or breadth of content and activity as well as to the sequence in which it is presented. (7:137)

Chittenden (51) discusses Almy's longitudinal study of kindergarten through second grade children who had been enrolled in new math and science curricula that stressed discovery and exploration on the part of the learner. An analysis of her results shows that there is little evidence that the new programs had any acceleratory effect on the development of logical operations. Regardless of their verbal abilities, the children who had no special instructional programs performed as well on the Piagetian tasks as did the children who had been in the program.

Chittenden concludes that Almy's work helps to give a clearer picture of the process of instruction.

> For Piaget, the distinguishing quality of human intelligence is the fact that man creatively acts upon his environment and constructs a reality; ideas of conservation, understanding of transitive relations, are but examples of such constructions. If the early years of childhood are given over to the business of constructing, then it is not surprising that instruction, in the formal sense of the word would sometimes seem out of place. From the teacher's point of view, then, the young child embodies two puzzling qualities--while he readily learns a great deal, he is, paradoxically, rather difficult to teach. (51:19)

We are a long way from having research that provides specific answers to the questions raised in this section. One would suspect that errors in pacing account for many of the learning difficulties that many children experience, but this is an exceedingly difficult area in which to design research.



CONCLUDING STATEMENT

Much research has been analyzed in the preparation of this report and, therefore, comments on the research on values of early childhood education seem highly appropriate. One would have to state unequivocally that research on values in early childhood education is very inconclusive; that if one must always have predictable outcomes of a program in order to accept it as worthwhile, we do not as yet have such evidence. We have evidence that some children seem to gain in I.Q. as a result of enrollment in early childhood programs. Most of the intervention programs tend to produce at least temporary I.Q. gains when they concentrate on specific cognitive skills, but even then, the gains are not always certain and may tend to level off within a few years. Some children who have been enrolled in early childhood programs achieve better in primary grades; some do not. Some children improve in their skills in relating to other people as a result of early childhood programs and some do not. Interestingly enough, when the results of enrollment in different kinds of programs are compared, the greatest gains are not always shown in one kind of program or another. Even the most carefully planned intervention programs do not bring the lower class child to the intellectual level of the middle class child.

The situation is still similar in many ways to what it was in 1960 when Fuller concluded that "the research support of values in early childhood education is abundant, but so is research support of weaknesses in present early childhood educational programs, of gaps in knowledge of how to measure what one wants to know, of confusion as to what value systems are to be employed when evaluations are made." (87:62)

From the current perspective, another conclusion by Fuller points to contrasts: "What is certain to be learned from such a literature search is that given a normal and ready child, an alert and skilled teacher, some ingenious materials, time to work, and an atmosphere and physical plant which is conducive to learning--all is well! But let any one element be lacking or less than perfect, and trouble can occur." (87:62) Since then, we have put forth an intense effort to educate not-so-ready children; we have utilized not-so-skilled adults as teachers; we have conducted a "crash" program; and we have created programs with unbelievable divergence in classroom atmosphere. From this perspective the inconclusiveness of research data should come as no surprise, but we have added so many dimensions to the research that our likelihood of finding causal relationships may well increase.

Burgess pointed to the mid-sixties as a time of challenge and a time of opportunity for early childhood education. Much of what she wrote still seems relevant.

> Certainly all teachers and administrators must honestly and thoughtfully analyze why they do what they do. Historic perspective on the emphases of different eras in education of the young provides some guidelines. Knowledge from other disciplines is essential. Clear values that guide judgments toward worthy human ends are required. 'Teaching,' as someone has said, 'is more than flying blind!' The important goal is to incorporate what we know about the nature of children and the process of their learning with the requirements of education for a changing society.
>
> The current cogent question for nursery and kindergarten educators is 'How can school programs be planned for young children which make use of existing knowledge about the relationship between emotional and intellectual aspects of human development--or more technically, between affective aspects of development and cognitive processes?' The early years of childhood appear to be the highly 'teachable moment' for placing the full force of feeling, motivation, drive, and satisfaction behind perception, learning, thinking, and all cognitive processes. Never before has there been as much clear evidence pointing to the educational importance of the early years of childhood. (44:56)

As Burgess pointed out, the consideration of values in early childhood education is closely interrelated with the question of education for what, and this is a matter that cannot be decided by research. The base of the educational system of every culture rests on the qualities of human nature that are considered desirable. A general image of an ideal human character underlies the planning of a system of education. The American educational system from the start has been experimental, varied, mixed, and controversial. Controversies in education have reflected conflicts about what kind of society America should become and how life should be lived. The programs described in the present report reflect the presence of this controversy to a much greater extent today than five years ago.

Quite obviously, as the evidence to support values in early childhood education has been reviewed--the experimental research and the theory--there have been more questions raised than answers given. It seems appropriate, then, to conclude with additional questions. The question of "Education for what?" raised by Burgess, poses a very interesting problem. Values in early childhood education have been found in studies based on programs planned to accomplish quite different goals. The evidence would lend some support to a conclusion that the more specifically focused the program, the more likely it is to accomplish the desired goals. Yet, this has not always proven to be the case either. Why? Is it that the programs are not effectively implemented, or is it that the goals are inappropriate? Is it in part a function of the interrelatedness of development that one cannot expect positive results in a program that emphasizes one aspect of development without directly attending to the experiences children are having that affect development in other areas?

With disadvantaged children the assumption has been that their greatest needs are in the cognitive area. Is this assumption, in fact, true? Their cognitive deficiencies are most observable in the classroom, but this may be more a function of the experiences encountered there. In a different situation other deficiencies might be equally apparent. Few measures have been made in other than the cognitive area. We know much less about deficiencies in other areas.

Why do researchers persist in the use of I.Q. and similar tests in the evaluation of early childhood education when these same tests have long been criticized as unreliable and invalid, particularly with the youngest children and with disadvantaged children? Study after study bases the successful outcome of the program on whether the child made or did not make I.Q. gains. Recognition is given to the fact that many researchers deferred to the demands from foundations or federal funding agencies for measurable proof of progress. The long range effect of this type of evaluation, however, appears to be negative. Not only does it not produce results in which one wishes to put great confidence, but the observable effect on some of the programs is that the research framework and the research techniques become the primary determinant of the curriculum. The few projects that have concentrated on the development of curriculum, refusing to be forced into premature evaluation, are to be commended. These seem to be the projects that offer real promise of discovering some of the more elusive factors that may affect the outcomes of early childhood education.

How much validity is there to the goal of bringing the intellectual functioning of lower class children to the level of middle class children? Is not a more valid approach that of helping the individual to use his abilities in such a way as to become a constructively contributing member of society? This can be an accomplishment of people with differing levels of intellectual functioning. It is one thing to identify and accept the differences in children and to find ways of teaching a child, whatever his level, but it is quite a different thing to imply that a child should be something that he is not. We talk about accepting lower class culture; then, we compare lower class children with middle class children. This is not acceptance. It seems that a more desirable approach would be to identify those characteristics that a person needs to function adequately in this society. Some of the characteristics identified will, indeed, be similar to what we have called middle class values. The question, then, is how we maintain the highest degree of difference while developing characteristics necessary for success in our society.

There are currently findings in many disciplines, which have implications for early childhood education, and at this point we need to look wider and deeper into the areas that have been partially or totally neglected. Currently, the emphasis in many programs is under the control of the psychologists. Psychologists have much to contribute, and their present emphasis on cognition will undoubtedly leave a permanent impression on the content of early childhood programs. However, we must look also to other areas such as psychiatry, sociology, pediatrics, and anthropology.

One of the most challenging questions has to do with the area of modeling. We have a great deal of evidence that the significant people in a child's life, particularly in early childhood, exert a tremendous influence in determining the kind of person the child becomes, the kinds of motivations he has, and the kinds of aspirations he holds for himself. Significant people include his parents, his teachers, his older siblings, and his neighbors. More and more it seems that we are looking to content to improve the outcomes of early childhood education when we should be looking to people. There is some indication that outcomes are affected by the kind of teacher a child has, by the kind of parent he has, and by the way he feels about himself. How many parents and teachers feel they can adequately help the child cope with the affective aspects of his environment? What kind of models do they provide? In some instances, parents need to be taught the behavior they will in turn model for their children. We have some evidence that these behaviors can be taught, but we also have evidence of some of the difficulties involved.

The role of the teacher as a model raises many questions about techniques used in classrooms. We have some proof that how a teacher interacts with children makes a difference in their behavior. While the programs concerned primarily with cognitive development have not usually reported results related to teacher behavior, it is interesting to observe the roles taken by teachers in some of these programs. Frequently, the teacher is highly controlling not only of the children's physical activity and participation but also of the cognitive activities in which the children are engaged. The teacher often does almost all of the initiating of activities. He terminates the activities when he has accomplished his purpose or when the children are tired. He may or may not be very sensitive about when to terminate an activity. The question is how these children who have constantly been asked to respond to the wishes and desires of other people react to this kind of modeling? Is the behavior that they have to model the kind of behavior we want them to develop? What happens to these children in situations when there is no one to tell them what to do? There are other programs in which disadvantaged children are becoming quite competent at choosing their own activities and in working independently, so the argument that this high degree of control is necessary cannot be entirely valid.

How can parents and teachers work together to increase the positive gains from participation in early childhood programs? Accumulating evidence both on the significance of parents as models and on parent involvement points to the important role of the parent. The implication is strong that preparation for parenthood cannot be left to chance if we are truly concerned about the well-being of children. Love for children alone and concern for their learning do not necessarily provide the conditions essential to the desired learning.

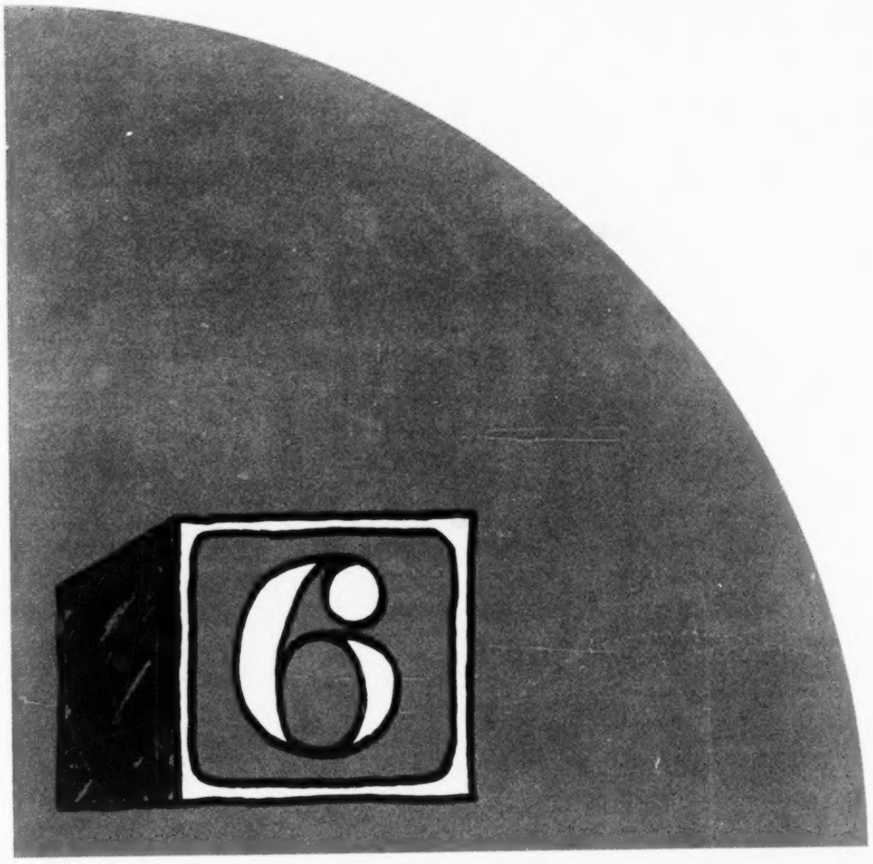
In view of what we know about the importance of the child's early experience, why do we not explore more fully the possibility of providing programs that are designed for the very youngest children and their parents? We have only begun to explore the possibilities of providing for infants the kind of environment they need to develop at a maximum level. Yet, the evidence we do have seems to indicate that programs that are begun in the fourth or fifth year bring too little too late to make up for the deficit that the child already has. We cannot emphasize too strongly that such programs must be of the highest quality and that they must provide the kind of experiences that support the child's own attempts at learning. These programs for very young children need to be strongly focused on strengthening the family's ability to provide for the child. They need not necessarily take the child from the home for long periods of time. Alternative programs should be provided, not only dependent on the family's ability to meet educational needs, but also designed to insure provision for all the child's basic human needs as well as his educational ones. These programs for very young children should emphasize helping the mother learn ways to play with and to stimulate the child and to support his efforts toward learning so that he begins to derive the desired satisfactions from this activity. Such programs should not be limited to low-income families. Serious problems can exist in families of all socioeconomic levels. We are not yet fully aware of the effects of deprivation in infancy, but we are sufficiently aware to prevent many difficulties that need never arise.

When young children do not show curiosity, do not explore and ask questions, something is wrong. We must find out what it is, and we must do something about it. Before we can have a very comprehensive study of outcomes we must develop instruments that will detect differences in affective behavior as well as in cognitive behavior. We have learned something of the extreme needs of some children through Head Start and Follow Through. Programs for young children must be comprehensive in nature. It cannot be emphasized too strongly that good early childhood programs begin early in the child's life with experiences that support the child's own attempts at learning, rather than with those that are imposed upon him by others. Early childhood programs should provide the setting in which the child encounters new experiences that he can relate to what he already knows. These experiences can begin with the simplest of sensorimotor experiences and extend to the possibility of creating with words, movement, and materials. Guidance and direction must be of the most sensitive kind so that children learn at an early age to find pleasure and satisfaction in learning and to feel confident of their abilities to meet new challenges as they confront them. Support from teachers is highly essential, but so is support from parents and older siblings.

Evidence is rapidly accumulating regarding potential values in early childhood education. The degree to which different people are willing to accept this evidence depends a great deal upon the point of view with which they approach it. One of the serious problems in the consideration of this evidence is the narrow definition of early childhood education held by many people, often including parents and teachers. Many cannot see beyond their own formal schooling, which often did not begin before first grade and which most likely was an authoritarian program concerned directly with the teaching of reading, writing, and arithmetic. The tendency of many such people is to become overconcerned that children will not learn these skills and to overlook abilities that are more vital to the younger child.

All responsible educators are concerned that children become proficient in academic skills, but this is just one aspect of becoming a competent human being. We do not know all it takes to make a competent human being, but it is time we looked at the outcomes of early childhood education in this context. Perhaps the emphasis on cognitive abilities will help in achieving this goal, but we cannot stop there. We must ask how we can combine the development of intellectual abilities with the realization of human dignity and integrity. That is what the civil rights movement and the antipoverty program are all about. The humanistic idea of education begins with the idea of man as possessing the potential to select and to create a destiny for himself.

Education must contribute to the young child's self-fulfillment in the broadest sense. This is a challenge to our best creative thinking both in the planning of programs and in the evaluation of outcomes of early childhood education.



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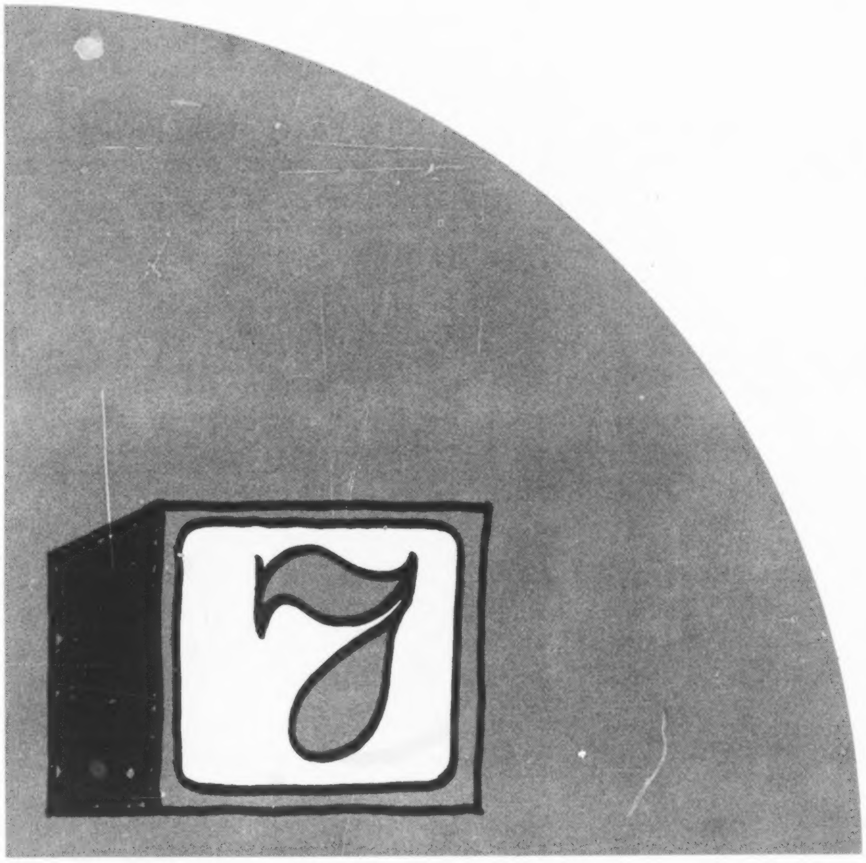

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Anger in Children. George Sheviakov. Focuses on the causes of anger, the types of anger, and practical ways in which teachers can cope with angry children in the elementary classroom. 1969. 32 pp. 75¢. (281-08752)

Attitudes and the Art of Teaching Reading. Roach Van Allen. Explores the language experience approach to reading, which helps children understand that speaking and writing and reading are all facets of one thing--our language. 1965. 48 pp. $1. (281-08792)

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Guiding Children Through the Social Studies. Robert W. Reynolds and a team of California educators. Offers reasons for teaching social studies as well as practical ideas for primary and intermediate grade classrooms. 1964. 40 pp. $1. (281-08664)

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